Nonlinear Effects of Dynamic Pricing on Export Performance: A Longitudinal Investigation

Jieke Chen

A thesis submitted in fulfilment of the requirements for

for the degree of Doctor of Philosophy at Durham University

December 2017

ABSTRACT

The knowledge of dynamic pricing in the international context still lacks sound theoretical underpinnings, and therefore renders few practical guidelines. This study develops a longitudinal framework to examine the nature of dynamic export pricing in exporting context. It shows that dynamic export pricing is a powerful marketing tool for exporting firms that helps them manage demand and react to competitors' movements. By employing venture-level longitudinal data, first, this study estimates an inverted-U shaped relationship between dynamic export pricing and export performance. Second, this study further investigates the moderating role of two dimensions of export market dynamism – customer dynamism and competitive dynamism – in this inverted-U shaped relationship while simultaneously controlling for endogeneity and unknown firm heterogeneity. This study theorizes and tests two types of moderation effects of the curvilinear relationship, including changes of the shape and shifts of the turning point. The results indicate that both customer dynamism and competitive dynamism significantly moderate the relationship between dynamic export pricing and export performance. Particularly, the shifts of the turning point delineate the fit lines that pinpoint the best dynamic export pricing practice under different customer and competitive dynamisms. Third, this study shows that previous actions and outcomes significantly influence the following year's export performance. The findings indicate the evolutionary effects of the dynamic strategies and thereby provide a better understanding of shaping superior export performance in the long term.

Keywords*: Dynamic export pricing strategy; Export performance; Longitudinal study; Dynamic panel model*

DECLARATION

I hereby declare that this thesis was composed by myself and that the work is my own.

Jieke Chen

STATEMENT OF COPYRIGHT

ACKNOWLEDGEMENTS

I would like to sincerely thank my dear first supervisor, Professor Carlos M.P. Sousa, for being such a perfect supervisor ever. He provides me with brilliant guidance and valuable suggestions all the time. Without his insights and commitment, this thesis would have been more difficult undertaking. His professional guidance and support on my doctoral work have greatly improved my research quality.

I also want to give my special thanks to my dear second supervisor, Dr Xinming He, for his constructive suggestions and supervision. His professionalism, insights and valuable supports have guided the completion of this thesis and given me such a positive experience with doctoral research.

I would like to thank Dr Ji (Karena) Yan and Dr Christos Tsinopoulos for their helpful advice and support during my doctoral work. Moreover, I would like to express my especial gratitude Professor Xiaochen Cai at Southwestern University of Finance and Economics in China for his kind helps and supports.

I would like to particularly acknowledge and thank my parents for their love and support. They made tremendous sacrifices to ensure that I had an excellent education. Without them, I could not have realized my own potential. Their trust and support extremely encouraged me to achieve this goal. I would also like to thank my aunt, Professor Huiling Yang and my families for their help and encouragement. Special thanks to my boyfriend, Jia Chen, for his support through all stages of my research. I also wish to thank my dear friends, Yi Liao, Huang Zhang, Yuxiang Liu, Yuan Huang, Ye Xiong and etc, for their accompanying and supporting throughout my life. I am also grateful to my doctoral colleges and friends, Junqi Li, Yuexian

Hong, Yuyan Zheng, Gu Yi, Min Li, Yu Li, Linhan Tang and etc., for their support and encouragement throughout my PhD programme.

TABLE OF CONTENTS

List of Tables

List of Figures

"*A growing number of companies keep their prices in a constant state of flux — moving them up or down in response to an ever-shifting multitude of variables*."

The Economist, Jan 28th, 2016

CHAPTER 1 INTRODUCTION

1.1 The literature of dynamic export pricing

Pricing is one of the most important marketing strategies for a firm as it has direct and immediate effects on revenue (Liu and Zhang, 2013). The pricing of products has become increasingly difficult for managers because of the ongoing globalization of markets (Myers et al., 2002). *Dynamic pricing*, defined as a strategy in which prices vary over time (Chen et al., 2017). Traditional pricing literature has well studied different pricing schemes that suggest periodic changing price over time, e.g., skimming pricing, penetration pricing (Tellis, 1986). These pricing schemes suggest the price variation by comparing with a fixed benchmark price, e.g., the launched price of a new product. For this manner, the future price is predictable and not necessarily unknown to the customers (Tellis, 1986). Recently, the dynamic pricing literature sheds light on memory-based reference pricing, where customers' expected price is based on historical prices, referred as reference prices (Chen et al., 2017). Unlike the traditional pricing schemes, the reference prices for the dynamic pricing vary over time, as the customers tend to have the strongest memory of the most

recent price. They use the reference prices to evaluate the current price, where the deviation from their expectations will affect their purchasing decisions.

Dynamic pricing has been widely adopted in practice. For instance, Amazon, as an e-commerce giant, successfully implements dynamic pricing by undercutting competitors on top-selling products while also protecting margins by charging more for less price-sensitive items. McKinsey highlights that the success of Amazon is attributed to its capability for changing prices promptly and accurately on millions of products (BenMark et al., 2017). The importance of dynamic pricing becomes more evident in the international business due to the rapid changes and intense competition in global markets. International firms need to dynamically adjust prices in order to achieve sustained competitive advantage (Tan and Sousa, 2011). This is particularly important in the exporting context as firms tend to export to several foreign markets simultaneously but with diminished control over individual markets (Spyropoulou et al., 2017). The complexity and instability in foreign markets lead to dynamic pricing becoming a viable strategy for exporters as it helps to manage demand and absorb market shocks with relatively low cost.

Dynamic pricing has been investigated in revenue management (Chen et al., 2017). The majority of studies build up analytical models to derive optimal pricing strategies under the conditions of monopoly (e.g., Raman and Chatterjee, 1995; Papanastasiou and Savva, 2017) or oligopoly (e.g., Levin et al., 2009). In the international business context, export pricing has received considerable research attention (Tan and Sousa, 2011). By summarising the literature included in the appendix, the studies relating to pricing effort for exporting firms between 2006 and 2014 are listed in Table 1.

Table 1 Summary of the literature regarding the pricing strategy for exporting firms

Authors (Year)	Antecedents	Mediation Variable	Moderator Variables	Consequence
Katsikeas et al. (2006)	Economic environment	Marketing strategy standardization/adaptation	Environmental context	Export performance
	Regulatory environment			
	Technological intensity and velocity			
	Customs and traditions			
	Customer characteristics			
	Marketing infrastructure			
	Stage of product life cycle			
	Competitive intensity			
Smith (2007)	Organizational determinants			Export performance
	Managerial determinants			
	Strategic determinants (e.g., Pricing practice in foreign markets)			
	Functional determinants			
Lages et al. (2008)	Firm's commitment to exporting	Product strategy adaptation		Export performance improvement
	Management international experience	Price strategy adaptation		
	Export market development	Promotion strategy adaptation		
	Export market competition	Distribution strategy adaptation		
	Preceding year performance			
Sousa and Bradley (2008)	Environmental difference	Price adaptation		Export performance
	Number of markets			
	Manager's export experience			

Authors (Year)	Antecedents	Mediation Variable	Moderator Variables	Consequence
Sousa and Lengler (2009)	Psychic distance	Product strategy adaptation Price strategy adaptation Promotion strategy adaptation Distribution strategy adaptation		Export performance
Navarro et al. (2010)	Export commitment Marketing strategy adaptation Perceived competitive advantages	Marketing strategy adaptation Perceived competitive advantages		Export performance
Chung et al. (2012)	Marketing strategy adaptation (product, price, promotion, place)		Firm international experience Firm size Consumer characteristics Legal environments Cultural distance Nature of products	Export performance
Murray et al. (2011)	Market orientation	Marketing capabilities (e.g., Pricing capability) Competitive advantage	Internal factors (Coordination mechanism, Cost leadership strategy) External factors (Market turbulence, Competitive intensity)	Export performance

Authors (Year)	Antecedents	Mediation Variable	Moderator Variables	Consequence
Navarro-García et al. (2014)	External environment Psychological distance	Marketing strategy standardization/adaptation	Export market orientation	Export performance
Sousa and Novello (2014)	Technological intensity Firm size External environment Competitive intensity	Distribution support Price adaptation Quadratic price adaptation		Export performance
Sousa et al. (2014)	Cultural distance Conservation values Export assistance Quadratic price adaptation	Psychic distance Price adaptation	Managers' international experience	Export performance

Table 1 shows that the majority of export pricing literature focuses on the pricing standardization/adaptation debate. Sousa et al. (2014) and Sousa and Novello (2014) investigate a curvilinear relationship between pricing adaptation and export performance. Katsikeas et al. (2006), Murray et al. (2011) and Chung et al. (2012) highlight the importance of the fit between marketing strategies, including pricing strategy, and market environment in affecting export performance. Murray et al. (2011) indicate that pricing capability plays a key role in shaping export performance, where stronger pricing capability leads to a superior export performance.

However, these studies examine export pricing issues based on a cross-sectional design, thereby postulating a static pricing regime (Cope, 2007; Tan and Sousa, 2011). It is important to acknowledge that export pricing strategy is not a static strategy, but rather a multidimensional, dynamic, and long-lasting activity (Tan and Sousa, 2011). Export pricing is a sequence of discrete actions unfolding over time. The variation of export pricing over a time horizon, referred to as *dynamic export pricing*. When exporting firms start to consider dynamic pricing strategy, they often face a critical problem: how dynamic export pricing can increase performance. The volume of change, referred to as the *degree of export pricing dynamism*, directly shapes the deviation from the customers' expected prices that affects export performance both in the short term and the long term. Short-term speaking, the customers may have instant reactions to the export pricing dynamism. If their observed prices deviate from their expectations, customers may change their purchasing decision immediately, thereby leading to the performance change of the same year. At the meanwhile, such observations update customers' reference prices and jointly shape their memory, which tend to affect the next-year price judgement.

As such, in the long run (if we let the time goes to indefinite), the historical export pricing dynamism tends to have damping impacts on the performance as the time goes by.

1.2 Gaps in the literature

Although dynamic pricing is considered to be a key strategy that drives revenue, little is known about the dynamic aspect for export pricing (Tan and Sousa, 2011). Specifically, there are three research gaps regarding dynamic export pricing. First, international business studies have highlighted the importance of strategic dynamism, but have largely overlooked the degree of dynamism (e.g., Lee et al., 2009). Due to great uncertainties and intense competition in global markets, it is important for exporting firms to dynamically adjust prices in order to achieve sustained competitive advantage (Tan and Sousa, 2011). Nevertheless, exporters not only face a simple question of whether to adjust their export prices, but also must address a more complex and quantifiable issue regarding the degree of dynamism. They need to understand the best degree of pricing dynamism so as to maximize their export performance. This context implies a potential curvilinear relationship (concave shape) between dynamic export pricing and export performance, which has not been examined by the existing studies.

Second, the dynamic capabilities view highlights that the effect of dynamic pricing on export performance is subject to the changing environment, e.g., changes of customers' preferences and competitors' movements, referred to as *market dynamism* (Maltz and Kohli, 1996). Noticeably, the external environment has two distinct types of moderation effects: it can strengthen/weaken the relationship between dynamic

pricing and export performance (changes of the shape), and it can shift the best degree of export pricing dynamism (shifts of the turning point). However, a large proportion of studies do not clearly theorize the moderation effects of a curvilinear relationship with hypothesis being double-barreled with vague predictions that do not differentiate these two moderation types (i.e., changes of the shape and shifts of the turning point) (Haans et al., 2016). As a result, these hypotheses can only provide superficial theoretical understanding and lead to confounded and ambiguous results (Burkert et al., 2014; Haans et al., 2016). Furthermore, the neglect of looking at the shifts of the turning point fails to explain the adaptation of optimal dynamic export pricing across markets. Optimal dynamic export pricing refers to the calculation of the best degree of export pricing dynamism that fits an individual market and, thereby, generates the greatest export performance. Importantly, facing different levels of market dynamism, the optimal dynamic export pricing effort is not a single value, but rather a set of shifted solutions across different markets (Volberda et al., 2012; Burkert et al., 2014).

In each market, dynamic export pricing tends to have a curvilinear relationship with export performance, where the maximum point of this curve describes the optimal dynamic export pricing that fits this market. Whereas, the optimal points vary along the changing market dynamism. The connection of the optimal points across different markets constitutes a '*fit line*' that delineates the set of optimal dynamic export pricing facing different market dynamism. For a concave curve, the maximum point is achieved at the turning point. As such, the fit line is constituted by the connection of the all turning points across different markets constitutes a '*fit line*'. Due to the uniqueness of exporting firms, it is of particular importance for exporting

managers to understand the fit line across different markets so as to devise a policy of dynamic export pricing for complex product lines.

Third, few studies consider the time dimension of dynamic export pricing. The dynamic export pricing is not static over time, because the temporal fit does not necessarily indicate the long-term fit (Donaldson, 2001). The policy of dynamic export pricing differs between short-term and long-term periods (Schwartz and Smith, 2000). To achieve a sustained competitive advantage, it is important to understand the differences between the short- and long-term effects of dynamic export pricing on export performance and seek an evolutionary dynamic export pricing policy.

1.3 Research questions

Drawing on the dynamic capabilities view, this study undertakes an in-depth analysis of the relationship between dynamic export pricing and export performance by taking into account export market dynamism. Specifically, this study focuses on two separate key aspects of export market dynamism – customer dynamism and competitive dynamism – and investigates their interaction effects on the link between dynamic export pricing and export performance. Moreover, this study examines the corresponding long-term evolution of these relationships. Accordingly, the study addresses three important research questions:

(1) What is the degree of export pricing dynamism that generates superior export performance?

(2) What are the fit lines between dynamic export pricing and export market dynamism across borders?

(3) What are the differences between the short- and long-term effects of dynamic export pricing on export performance?

1.4 Contributions to the literature

This study's contributions to the literature are threefold. First, this study contributes to the dynamic pricing literature by extending it to the international context. Exporting provides an important context for studying dynamic pricing, as dynamic export pricing is computationally intensive and practically demanding to export managers (Chen et al., 2017; Spyropoulou et al., 2017). By employing a large-scale venture-level panel data set, this study investigates a curvilinear relationship between dynamic export pricing and export performance. It shows that dynamic export pricing is particularly helpful in improving the export performance if applied appropriately. The dynamic capabilities view has been criticized for its vague and elusive construct regarding the extent of flux (Schreyögg and Kliesch-Eberl, 2007; Barreto, 2010). This study further advances the dynamic capabilities view by investigating the degree of dynamism. Our results suggest that, although exporting firms are capable in adjusting export prices to a great extent, ever-increasing pricing dynamism does not always generate a superior export performance.

Second, this study examines the moderating role of market dynamism in the curvilinear relationship between dynamic export pricing and export performance from both changes of the shape and shifts of the turning point. This effort responds to the research call for separately theorizing these two moderation types of a curvilinear

relationship, as it builds crucial bridges between theory and data (Haans et al., 2016). Moreover, examining these two moderation types separately is theoretically important as it contributes to the dynamic capabilities view by providing the boundary conditions, which is an important precondition for a theory to move forward (Barreto, 2010; Schilke, 2014). The results explain the conditions that enable export pricing to generate superior performance. Specifically, changes of the curve empirically show the suitable contexts for different levels of export pricing dynamism. Shifts of the turning point delineate the policy of dynamic export pricing under different customer and competitive dynamisms. By plotting fit lines, this study empirically pinpoints the optimal dynamic export pricing in maximizing export performance across different markets. Moreover, this study empirically shows that the increasing market dynamism does not necessarily require increasing strategic dynamism. This polynomial effort refines the dynamic capabilities view by demonstrating adjustments of dynamic strategies facing different markets with varying market dynamism. The findings indicate that, facing markets with high customer or competitive dynamism, two different strategies should be employed. They offer valuable guidelines for export managers regarding the optimal dynamic export pricing in different export markets.

Third, this study develops a unique longitudinal framework by considering the time dimension. By doing so, this study compares the differences between the short-term and long-term effects of dynamic export pricing on export performance. Moreover, this study employs a panel model with controlling venture-year fixed effects that capture the unobserved venture heterogeneity and time effects. While exploring the long-term effects, this study employs the dynamic panel model with system

generalized method of moments (GMM) to control for endogeneity issues (Uotila et al., 2009). This longitudinal effort advances the operationalization of the dynamic capabilities view by examining the long-term relationships between dynamic export pricing, export market dynamism and export performance, which implies a sustained competitive advantage that is largely neglected by cross-sectional studies.

1.5 Structure of this thesis

This thesis is structured as follows: Chapter 1 explains the importance of the topics studied, the research gaps and questions, and the contributions that will be made by answering these research questions. Chapter 2 first introduces a definition and background of the underlying theory: dynamic capabilities view. It then outlines the conceptual framework based on the dynamic capabilities view. Chapter 3 provides further theoretical developments regarding each path of the conceptual framework. Specifically, this chapter develops four detailed hypotheses regarding (1) the direct link between dynamic export pricing and export performance; (2) the moderation effect of customer dynamism and competitive dynamism on the relationship between dynamic export pricing and export performance; and (3) effects of past dynamic export pricing and export performance on future export performance.

Chapter 4 first describes the data and measures adopted for the research and introduces the empirical methodology used in this thesis. Then, it presents the empirical results by examining the sample set and explains the outcomes of the hypothesis testing. Chapter 5 discusses of the results provided in Chapter 4, including both theoretical implications and managerial implications. It also discusses the limitations of this thesis and suggests directions for future research.

Chapter 6 provides an overall summary of this thesis, and concludes the findings.

Finally, I include the auxiliary information in the appendix.

CHAPTER 2 THEORETICAL BACKGROUND

2.1 Dynamic capabilities view

The dynamic capabilities view is proposed as an extension of the resource-based view, which has gained increasing research attention in the marketing and management literature in recent decades. Such research interest is due to a large extent to the longstanding significance given to the link between strategic choices and changing environment (Barreto, 2010). The dynamic capabilities view explains why and how some firms succeed in dynamic and unpredictable markets (Barrales-Molina et al., 2014; Wilden and Gudergan, 2015). Specifically, *dynamic capabilities* are initially defined as "*the firm's ability to integrate, build, and reconfigure international and external competencies to address rapidly changing environments*" (Teece et al., 1997: 516). It consists of a specific process of strategic decision-making that aims to achieve an alignment of marketing strategies with external market conditions, where such alignment is a source of sustained competitive advantage (Eisenhardt and Martin, 2000). Failure to align strategic choices to the changing environment can lead to performance decrease or even market failure (Barreto, 2010).

Although widely applied, the dynamic capabilities view is still the subject of some contradictory conceptions, including the definition and other notions. One of the continuous debates is the boundary conditions for dynamic capabilities, which describe when and where the dynamic capabilities approach contributes to answer how a firm obtains and sustains a competitive advantage (Peteraf et al., 2013). A

significant criticism on dynamic capabilities view is about its ill-defined and confounding boundary conditions (Schilke, 2014). Table 2 lists the definitions and boundary conditions of dynamic capabilities provided by core theoretical papers within this research field.

Table 2 Definition and contradictory conceptions of dynamic capabilities view

Authors (Year)	**Definition**	**Boundary conditions**
Teece, et al., (1997)	*the firm's ability to integrate, build, and reconfigure international and external competencies to address rapidly changing environments* (Teece et al., 1997: 516)	Dynamic capabilities are especially relevant in markets with rapid changes.
Eisenhardt and Martin (2000)	*Specific organizational and strategic processes (e.g., product innovation, strategic decision making, alliancing) by which managers alter their resource base* (Eisenhardt and Martin, 2000: 1111)	Dynamic capabilities become difficult to sustain in high-velocity markets. In moderately dynamic markets, dynamic capabilities resemble the traditional conception of routines.
Zollo and Winter (2002)	*A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness* (Zollo and Winter, 2002: 340).	Firms need dynamic capabilities even in markets subject to lower rates of change.
Zahra et al., (2006)	*The abilities to reconfigure a firm's resources and routines in the manner envisioned and deemed appropriate by its principal decision-maker(s) (Zahra et al., 2006: 918).*	Expending resources to develop dynamic capabilities may harm performance in stable markets. *The potential gain from dynamic capabilities is greater in dynamic environments* (Zahra et al., 2006: 942).

Teece, et al., (1997) clearly argue that dynamic capabilities become the most beneficial in very dynamic markets, sometimes termed as 'high-velocity' markets, where the resources-based view fails to explain firms' competitive advantages. In these markets, market players (e.g., customers, competitors) are blurred and shifting, and priori knowledge may fail to predict the future (Eisenhardt and Martin, 2000). Moreover, Eisenhardt and Martin (2000) consider dynamic capabilities may encounter a boundary condition in high-velocity markets due to the extreme volatility and unpredictability. They suggest dynamic capabilities to be particularly helpful in moderately dynamic markets, as managers could use their past knowledge to reallocate resources in response to the environmental changes. Subsequently, Zollo and Winter (2002) redefine the concept of dynamic capabilities and consider it to be also relevant to the context of relatively stable markets with low rates of change. Zahra et al., (2006) consider the dynamic capabilities concept is valuable for all markets, but its effects on performance vary across markets with different environmental dynamism. Therefore, in order to address the conceptual confits of boundary conditions for dynamic capabilities, Barreto (2010) highlights the need of determining and comparing the contextual variables in which the dynamic capabilities concept is most relevant.

Particularly, dynamic capabilities in the international market present more challenges than ever, as ongoing internationalization leads to a more competitive and unpredictable environment. Thus, it is crucial to explore how to achieve superior performance by applying the dynamic capabilities view in an international context. The nature of dynamic capabilities could be viewed as a capability of reorganization, including restructuring and reconfiguring a firm's resources, in order to achieve

evolutionary fitness (Girod and Whittington, 2017). Specifically, on the one hand, restructuring implies pervasive changes in fundamental organizational structure and design. This is usually in a large scope accompanied by giant costs and risks. On the other hand, reconfiguring is a more common form, pursuing alignment by adding, splitting, transferring, merging or deleting units without change to the fundamental structure (Girod and Whittington, 2017). Usually, reconfiguring is in a limited scope, but happens more frequently and continuously. Facing the changing international environment, leveraging marketing strategies is of particular benefit to an exporting firm's performance.

2.2 Conceptual framework

Dynamic export pricing is viewed as the reconfiguration of export pricing strategies in order to align with the external export markets. To succeed in export markets, firms need to identify and monitor the external markets and then adapt their pricing strategies to fit the changing environment (Myers et al., 2002). Such reconfigurations of export pricing processes over time imply the firms' dynamic capabilities. Thus, referring to the dynamic capabilities view, there are two forces that shape the effects of dynamic export pricing on export performance.

First, in terms of the dynamic export pricing itself, the degree of dynamism is important to consider. Noticeably, dynamic export pricing is not linear and mindless, but is, instead, a sensitive and cognitively mindful strategy (Haws and Bearden, 2006). The export pricing reconfiguration processes are dissipative as they are in a continuously unbalanced state of slipping into the category of being either too much or too little. The typical linear postulation may not adequately explain the

relationship between dynamic export pricing and export performance, where the continuously increasing export pricing dynamism does not always lead to the superior export performance. As such, the degree of dynamism is a ‘double-edged sword’. On the one hand, under-dynamic (relatively static) export pricing lacks strategic flexibility, which leaves it as insufficient to fit the rapidly changing environment. On the other hand, over-dynamic export pricing brings with it new hazards, and an excessive flexibility of export pricing may damage the commitment of an export venture (Liu et al., 2013). Customers can strategically postpone their purchase to await lower prices (Levin et al., 2009). Thus, there is a need to suggest a constraint to the dynamic capabilities view that only up to a certain degree does dynamic export price setting lead to superior export performance, whereas either static or excessively dynamic export pricing is counterproductive to export performance. Exporting firms need to operate dynamic export pricing and, more importantly, search for an optimal dynamic degree that provides a trade-off between firm commitment and strategic flexibility.

Second, the deliberateness of dynamic export pricing should be integrated with the changing environment. Particularly, in high-velocity markets, prior knowledge may fail to predict outcomes facing market dynamism, firms need to use semi-structured routines and apply real-time and experiential information to create resource reallocation routines (Eisenhardt and Martin, 2000). In these markets, it is necessary for exporting firms to rapidly create situation-specific knowledge that reconfigures their strategic resources to master the market dynamism. As such, the optimal degree of dynamic export pricing in high-velocity markets differs to that in low to

moderately dynamic markets. The export pricing challenge becomes a complex problem that incorporates export pricing dynamism and market dynamism.

Thus, this study proposes that the curvilinear relationship between dynamic export pricing and export performance is moderated by the external export market dynamism. Specifically, this study focuses on two separate aspects of export markets dynamism: customer dynamism (i.e., the changes in customers' demands) and competitive dynamism (i.e., the changes in market competitiveness) (Maltz and Kohli, 1996; Feng et al., 2017). The literature has shown that both customer dynamism and competitive dynamism are key variables that affect the extent to which a firm gains or maintains sustained competitive advantages (Maltz and Kohli, 1996; Boso et al., 2013). Thus, it is important to manage the optimal amount of export pricing dynamism facing varying customer and competitive dynamisms, which brings the strategic fit between export pricing dynamism and market dynamism. Noticeably, such a fit between the export pricing and export market is not a single score, but rather a set of correspondences between contingencies in a two-dimensional space, referred to as a fit line (Edwards, 2002). The fit line is calculated as an optimization line after estimation, which connects all points of fit that could generate the maximum export performance. In order to achieve export success, it is of particular importance for export managers to be aware of this fit line and understand how to adapt the optimal degree of dynamic export pricing to fit different market dynamisms (Burkert et al., 2014).

Furthermore, from a longitudinal perspective, exporting firms' operations are continuous activities that gradually build up a sustained competitive advantage over time. Previous strategic decisions and outcomes shape firms' unique experiential

knowledge that may further affect their later performance and the size of this influence could infer the probability of a sustainable competitive advantage (Tang and Liou, 2010; Otley, 2016). In order to test the posterior impact from past achievement, this study includes past export performance as an explanatory variable of future performance. Doing so enables assessment of the long-term strategy-performance relationships and captures the strategic fit changes over time, which extends the traditional static view. Hence, this configurational theoretical basis enriches the export pricing literature and enhances our understanding of the influence of export pricing on export performance. Our conceptual framework is shown in Figure 1.

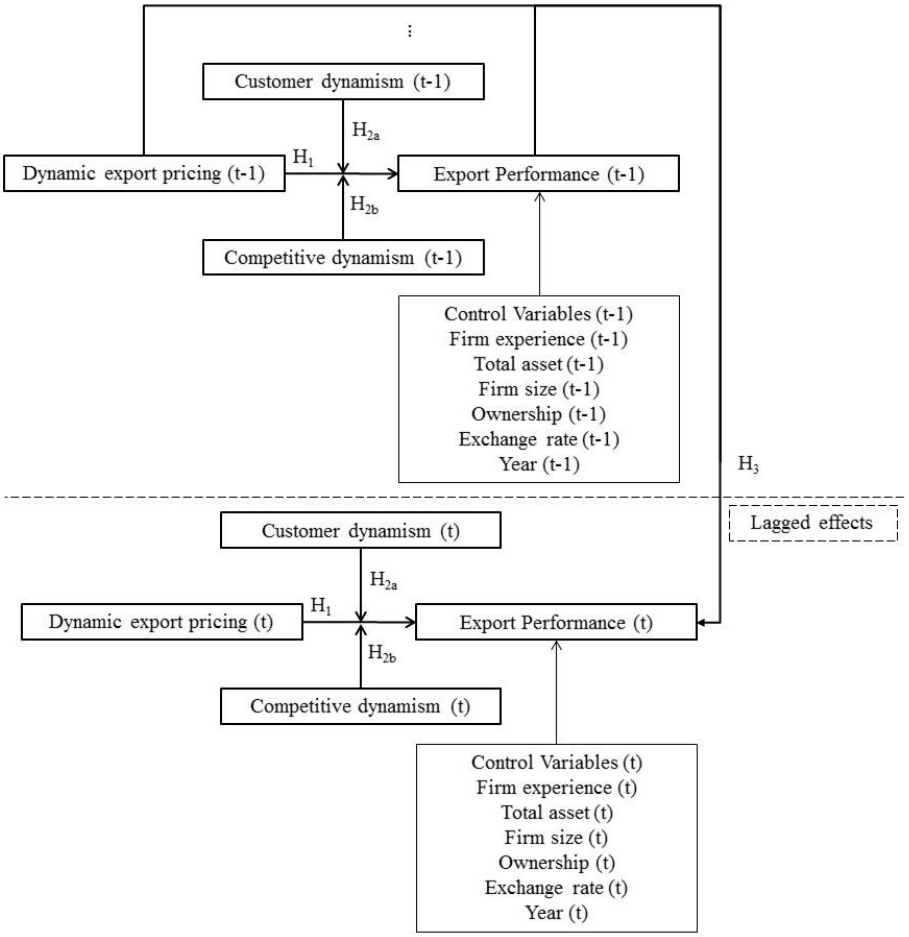


Figure 1 Conceptual framework

The dashed line divides the Figure 1 into two sections, where each section represents the relationships happening within the same year. In each year, this thesis proposes that dynamic export pricing has non-linear effects on export performance (H_1) and the link between dynamic export pricing and export performance is moderated by external market dynamism, including customer dynamism (H_{2a}) and competitive dynamism (H_{2b}). In order to obtain more reliable estimations, this thesis controls for other important firm- and country-level variables, including firm experience, total asset, firm size, ownership, exchange rate and year dummy. Furthermore, this study considers that the past relationship and the corresponding outcome tend to have lagged effect on the following year's performance. As such, this thesis posits that, longitudinally, the previous year's export dynamic pricing and export performance influences the following year's export performance (H_3).

CHAPTER 3 HYPOTHESIS DEVELOPMENT

3.1 Dynamic export pricing and export performance

Dynamic export pricing is a strategy that reflects firms' capabilities to reconfigure export pricing in response to external export markets changes in real time (Myers et al., 2002; Levin et al., 2009). Traditionally, the practice of pricing literature posits a static pricing regime wherein prices should not be changed dynamically (Myers et al., 2002; Cope, 2007). An intrinsic property of this pricing regime is lack of information (den Boer, 2015). However, facing the rapid changes and unpredictability of export markets, enforcing a fixed export price (non-dynamic export pricing) leads exporting firms to lose their strategic flexibility and can cause failure in foreign markets (Cavusgil, 1997; Myers et al., 2002). Along with the development of online services and digital data, the information of foreign markets becomes easier access and be incorporated into export pricing strategic decisions (den Boer, 2015). Dynamic export pricing becomes particularly valuable and viable as it can address the market changes and ease the export market pressure (Haws and Bearden, 2006).

Referring to the dynamic capabilities view, export firms should adjust their export prices dynamically in response to export market changes (Levin et al., 2009). The upward and downward trend movements of export prices throughout an operating year capture the dynamism in export pricing (Tauchen et al., 1996). Increasing export pricing dynamism, indicating an increasing strategic flexibility regarding export

pricing, provides superior routes and alternatives in generating superior export performance within a volatile environment (Cadogan et al., 2012).

However, excessively increasing the degree of dynamic export pricing may damage export ventures' commitment and engender hazards on export performance (Liu and Zhang, 2013). Levin et al. (2009) indicate that, when facing large-scale dynamic export pricing, strategic foreign customers may postpone their current purchase for lower prices or even withdraw their purchase, which leads to a decrease in sales. Noticeably, the dynamic pricing model assumes that customers make decisions as soon as their observed pricing deviation surplus their expectation (Levin et al., 2009), so the impacts on the performance will be investigated immediately. In addition, implementing dynamic export pricing requires investment in relevant strategic resources (e.g., monitoring markets and tracking changes) (Cope, 2007). Due to the limited resources and operating budgets, exporting firms would find that ever-increasing efforts on dynamic export pricing are costly, which in turn may result in higher prices (Cadogan et al., 2009).

Consequently, this study suggests that, up to a certain level, export pricing dynamism initially leads to increased export performance. However, beyond this optimal point, excessively increasing export pricing dynamics results in lower export sales performance, as the dynamic level of export pricing may be considered "too much". Accordingly, this study proposes a concave relationship between dynamic export pricing and export performance as below:

H1: There is an inverted U-shaped relationship between the degree of dynamic export pricing and export performance.

3.2 Moderating role of export market dynamism

Discontinuity and unpredictability of external environments create substantial managerial problems for pricing efforts, and this is particularly severe for exporting firms. The dynamic capabilities view posits that incorporating the changing environment into the deliberateness of configuring and deploying resources and capabilities endures competitive advantage (Eisenhardt and Martin, 2000). As such, the dynamic export pricing should be customized to fit individual foreign markets with varying market dynamism. *Market dynamism* is defined as the rate of change in customers' preferences and competitors' movements (Maltz and Kohli, 1996). Therefore, this study focuses on the two key aspects of market dynamism: customer dynamism and competitive dynamism (Adjei et al., 2009; Boso et al., 2013). Both customer dynamism and competitive dynamism are linked with environmental uncertainty, where increasing environmental uncertainty introduces a great complexity in reconfiguring their resources and adjusting marketing strategies, as it is not possible to specify a priori for possible future states (Li and Simerly, 1998; Eisenhardt and Martin, 2000). Hence, changing customers' preferences and competitors' movements engender great difficulties for export managers to the export pricing effort (Myers, 1999; Wilden and Gudergan, 2015). The degrees of customer dynamism and competitive dynamism serve as the environmental context that can affect the extent to which an exporting firm gains competitive advantages by adopting dynamic export pricing of the same year.

Customer dynamism. Customer dynamism indicates the changes in foreign customers' preferences and demands (Boso et al., 2013). Regarding the moderating role of customer dynamism, this study considers that customer dynamism affects both the effects of dynamic pricing on export performance (the shape of the curve) and the best dynamic pricing efforts (turning point). Under the condition of low customer dynamism, where the demand is relatively easy to predict, it is less pressing to adjust export pricing excessively and frequently (den Boer, 2015). Past experience and tacit knowledge are helpful in predicting future customers' demands and movements. In this context, export managers follow rules of thumb to make strategic decisions and deliberate over the best dynamic pricing effort to effectively respond to the changing customer demands (Eisenhardt and Martin, 2000). Low customer dynamism implies relatively high customer commitment and, usually, high sensitivity to the changes. As such, customers tend to have stronger reactions to pricing adjustments. Thus, in these markets, low pricing dynamism has greater positive effects on export performance, while the over-dynamic export pricing engenders severe damage to export performance.

Conversely, under a high level of customer dynamism, customers frequently change their preferences, where exporting firms face high flux demand that is difficult to monitor and predict (Lages et al., 2008). In these markets, customers hardly persist in the same products, so it is difficult for exporting firms to set up and maintain long-term relationships with customers. Exporting firms face tremendous difficulties in reinforcing their performance. This is even a case for the firms with abundant resources and experiential knowledge, as their past experience could not contribute to predicting customer demand in these markets (Eisenhardt and Martin, 2000).

Accordingly, dynamic pricing becomes increasingly important for exporting firms as a means to react to the external shocks caused by customers' uncertainties. High dynamic pricing performs better in a market with high customer dynamism than in one with low customer dynamism.

Furthermore, customer dynamism indicates shifting customer needs, with high customer dynamism associated with increasing variations in buying behaviours (Boso et al., 2013). Customers can easily turn away from and, then return to a product. They tend to use their previously received price as a benchmark in their judgment of fair pricing, where large discrepancies between current prices and referred prices may delay or even dispel their purchases (Haws and Bearden, 2006). As such, this study considers that keeping the pricing dynamism within a low degree brings two benefits in the markets with high customer dynamism. First, it lowers the cost of adjusting export prices. Second, it maintains foreign customers' commitment. Thus, facing high customer dynamism, the dynamic export pricing effort becomes, unexpectedly, simple by sticking to the fundamental principle that relatively low dynamic export pricing becomes the best option (Eisenhardt and Martin, 2000). In sum, this study proposes that the inverted U-shaped relationship between dynamic export pricing and export performance is moderated by customer dynamism, specifically:

H2(a): Customer dynamism flattens the inverted-U curve between dynamic export pricing and export performance, where low-dynamic export pricing performs better in an export market with low customer dynamism, and high-dynamic export pricing generally performs better in an export market with high customer

dynamism. The best dynamic pricing efforts decrease with increasing customer dynamism.

Competitive dynamism. Competitive dynamism indicates the changes in the heterogeneity and concentration of competitors and the variation of the market share of these firms (Feng et al., 2017). Regarding the moderating role of competitive dynamism, this study considers that it has similar effects in changing the shape of the curve but different influences in shifting the best dynamic pricing efforts (turning point). When competitive dynamism is low, export managers could use their knowledge to predict their competitors' movements (Boso et al., 2013). In this context, referring to the dynamic capabilities view, small and deliberate adjustments in export pricing would provide a better fit with external markets. In contrast, high competitive dynamism reflects that competitors in foreign markets have rapid movements and their strategic actions are difficult to predict (Schilke, 2014). Hence, high dynamic pricing indicates significant resources reconfigurations that provide a better fit between a firm and highly unpredictable environmental conditions. Moreover, foreign customers who are used to the volatilities in supply become less sensitive to the export pricing dynamism. Thus, the curvilinear relationship between dynamic export pricing and export performance is flattened under high competitive dynamism, where the negative slope of the curve is positively moderated by the increasing competitive dynamism, and vice versa.

Importantly, different from customer dynamism, the competitors' movements create pressure to justify their marketing strategies (Boso et al., 2013). If an exporting firm fails to effectively respond to its competitors' actions, it may lose its current markets

and suffer from poor export performance. Thus, facing a greater degree of competitive dynamism, exporters need to adjust their export pricing more dynamically to provide better reactions. Foreign markets encourage export ventures with appropriate price adjustments that are aligned with competitive dynamism, and inhibit those that are not. Thus, this study considers that the inverted U-shaped relationship between dynamic export pricing and export performance is also moderated by competitive dynamism, specifically:

H2(b): Competitive dynamism flattens the inverted-U curve between dynamic export pricing and export performance, where low-dynamic export pricing performs better in an export market with low competitive dynamism, and high-dynamic export pricing generally performs better in an export market with high competitive dynamism. The best dynamic pricing efforts increase with increasing competitive dynamism.

3.3 Lagged effects from previous export performance and dynamic export pricing

It is important to note that exporting firms' operations are not instantaneous activities, where past strategies and outcomes play non-negligible roles in shaping current and future export performance. The sustainability of competitive advantages is a long-term concern for firms (Wiggins and Ruefli, 2002). In order to achieve a sustained competitive advantage, exporting firms need to take past information into consideration and understand the lagged influence from past strategic decisions and the corresponding outcomes.

With respect to dynamic export pricing, past strategic decisions may have a carry-over influence on the following year's export performance. Both customers and competitors build up their perceptions on an export venture through observing its history. These perceptions shape their purchase intention and strategic reactions (Liu and Zhang, 2013). This process takes time, which leads to lagged effects of the past actions on the later performance. For instance, when the past export pricing dynamism is high, the strategic customers may postpone their purchases and wait for lower prices. Once they observe their expected prices, the previously postponed purchases will be redeemed in the aftermath, which contributes to the subsequent export performance. As such, this study proposes that past dynamic export pricing tends to have positive effects on the following export performance.

Regarding the feedback from past export performance, Bernard and Jensen (2004) indicate that past export success is the best indicator of future exports. Past export performance could be used to calculate the posterior probability of a sustainable competitive advantage (Tang and Liou, 2010). From the dynamic capabilities view, an export venture's achievement of previous exporting successes demonstrates its superior capability of reconfiguring its resources, which implies a higher probability of achieving good export performance in the following year (Lages et al., 2008). Thereby, past export performance is likely to positively affect future export performance.

In addition, Donaldson (2001) suggests that high performance tends to keep a firm in a misfit state. Specifically, for the export venture that has already achieved a fit in the export market, high performance is likely to cause it to expand by using slack resources to change its contingencies, e.g., exports to other foreign markets, so as to

move into misfit. After shifting this misfit into a fit again, the new fit with the feedback from the past strategies and outcomes becomes larger than the initial one. Thus, this study considers that the lagged effect of the previous strategies and outcomes may positively shift the following strategic fit, where the following fitted strategies and outcomes become larger than the prior one. Thus, both optimal dynamic export pricing and the corresponding export performance at the fit point grow in the long run. Accordingly, this study proposes the following hypothesis regarding the lagged effect over time:

H3: Past dynamic export pricing and export performance have positive effects on future export performance, thereby positively shifting the interactions between dynamic export pricing and customer/competitive dynamism.

CHAPTER 4 DATA AND METHODOLOGY

4.1 Data

This study used Chinese exporting firms to test our hypotheses. China has been one of the fastest growing economies for decades (Brouthers and Xu, 2002; He et al., 2013). Now it has become the world's second largest international trade country and the most important manufacturing location (Zhang and He, 2014; He et al., 2015).

Data was collected from three sources: the Chinese Imports and Exports of Customhouse Database (CIECD), Chinese Industrial Enterprise Database (CIED), and the World Bank's World Development Indicators (WDI) Database. CIECD is a recently released proprietary database authorized by the Chinese General Administration of Customs. It records every detailed international transaction at Chinese customs from 2000 to 2009, encompassing more than 12,000 commodities per year. Each record covers information such as export/import product quantity and value, producing and marketing country, business units, and ownership. CIED includes Chinese enterprises' basic information, financial information and product information from 1999 to 2009. WDI is compiled by the World Bank from officially recognized data resources, which provides authoritative aggregated global economic development information, including the exchange rate, market total import value, and the Hirschmann-Herfindahl (HHI) index.

The data from CIECD is available at a daily frequency, but this study focused on the annual level. Transferring daily data into annual data is motivated by several

considerations. First, daily data is likely to contain outliers and face interference from seasonality and lumpiness, which may generate misleading results (Manova and Zhang, 2012). Annual data analysis could help us cast off these issues and focus on pricing strategy. Second, this study explores the influence of the market development level on export performance. The market level factors are an annual index. If using daily data, the outcome will contain statistical bias multiplied by the reduplicative number of observations without introducing sufficient new information (Manova and Zhang, 2012). Hence, I aggregate the observations from the same exporter to the same foreign country within the same year by summing up their export volume and value. As such, I obtain an annual-level export dataset containing the information of firm name, export country, year, annual export volume and annual export value. Then, I calculate the annual average price by dividing annual export value by annual export volume.

In order to obtain the firm-specific information in corresponding to each export firm from 2000 to 2009, I merge the databases CIED to the aggregated annual-level export dataset obtained above by matching the integrated information of firm name and year. We drop out the redundant observations that are contained in the CIED but not in the export dataset. As a result, we obtain an updated merged dataset that contains the export-related and firm-specific information of individual exporting firms' to each foreign markets in each year.

Moreover, in order to obtain the country-level information, the WDI database is integrated into the updated merged dataset above by matching the export country name. The countries that are included in the WDI databased but not observed in the export dataset are excluded. Thus, the final dataset contains all export-related, firm-

specific and export-country information of individual exporting firms' to each foreign markets in each year.

As data cleaning, we omitted the export ventures that have missing information. Furthermore, in order to capture the long-term effect of export pricing strategy and explore the sustained competitive advantage, this study selects the export ventures that had continuously exported to the same country throughout all ten years. Within each year, at least one record of the export transaction could be observed at the Chinese border. Finally, the final balanced panel data set with 50,330 observations is obtained for analysis.

4.2 Measures

Dynamic export pricing. As the purchasing decisions are made discretely, a set of export prices is received for transactions within a year (Levin et al., 2009). The variance of percent changes in export prices to identify the range of export pricing movements, (Slade, 1991), defined by

$$dp_{jit} = var[(\dot{p}_{jiT}/p_{jiT}] \tag{1}$$

where j stands for venture j, i for export country i, and T for time period; p_{jiT} represents the exporting price; $\dot{p}_{jiT}$ denotes its time derivative. The variance is taken over all p_{jit} during time period T. In this study, I set $T = 2$, as some export ventures may only have one observation within some certain years. The $\dot{p}_{jiT}/p_{jiT}$ is approximated by

$$\dot{p}_{jit^*}/p_{jit^*} = \ln(\dot{p}_{jit^*}) - \ln(p_{ji(t^*-1)}), \quad t^* \in T\,. \tag{2}$$

This measurement separates the random price movements and systematic trends, which shows the adjustments in price between two adjacent time points (Slade, 1991). For normality requirement, I further transform the original dynamic export pricing by using the Box-Cox transformation (Sakia, 1992), formatted as:

$$dpt_{jit} = (dp_{jit})^{1/n}, \quad n = 4. \tag{3}$$

Export market dynamism. This study investigates export market dynamism from two separate aspects: customer dynamism and competitive dynamism. *Customer dynamism* captures the degree of change in export customers' demands (Boso et al., 2013). This study operationalizes it as the coefficient of variance of the five-year[1] change in export markets' total import value. C*ompetitive dynamism* is considered to be the changes in market competitiveness (Boso et al., 2013). This study measures it by using the coefficient of variance of the five-year change in the HHI index (Feng et al., 2017).

Export performance. Export sales value is one of the most commonly used measures to capture export performance (Li et al., 2013). As regularly used as the single-scale export performance, this study operationalizes the total annual export sales value of an export venture to measure the export performance in this study

[1] The five-year window to calculate the market dynamism is supported by the literature (Keats and Hitt, 1988; Feng et al., 2017). In order to check the robustness of the results, I also used four- and six-year window to calculate the two dimensions of market dynamism. The results are consistent with the five-year measures.

(e.g., Boug and Fagereng, 2010; Bertrand, 2011; Li et al., 2013). This scale provides objective sales-related and market-related measures of export performance (Sousa, 2004). Thus, export performance is denoted as EP_{jit} , which indicates the performance of individual export venture *j* in a country/market *i* in year *t*.

Control variables. In addition, this study controls for several important variables to reduce the possible confounds. The literature suggests that some firm internal variables, including firm size, firm ownership, firm experience, and total asset, may affect export performance (Myers et al., 2002; Filatotchev et al., 2009; Singh, 2009). For example, certain firm ownership statuses may possess different international advantages (Filatotchev et al., 2009). this study categorizes *ownership* for Chinese firms into three types, fully state-owned enterprises, partial state-owned enterprises and other, and express these by two dummy variables (He et al., 2013). *Firm size* is also a widely used control variable to the venture-level export performance analysis (Tan and Sousa, 2011). This study captures it by the number of employees (Brouthers, 2002; He et al., 2013). A firm's experience may also have influences on its export activities as it reflects the accumulation of knowledge and experience (Sousa and Bradley, 2009; Hultman et al., 2011). This study measures *firm experience* by using the number of years since the firm was founded (Yi et al., 2012). *Total asset* is measured by the exporting firm's total asset at the end of that operating year in Chinese currency (RMB).

In terms of the external exogenous variable, this study controls the exchange rate, as it plays a key role in the international activities and can significantly influence the pricing-performance link (Myers et al., 2002; Singh, 2009). The *exchange rate* is measured as the exchange rate between RMB and the currency of the export

destination country. For all of the continuous control variables, the natural logarithmic values are taken in the modeling.

4.3 Empirical methodology

In order to test the hypotheses, this study first used two-way fixed effect panel models to examine the interaction between dynamic export pricing and the two aspects of market dynamism, and the corresponding effects on export performance from the longitudinal perspective. This is important as the time-specific and individual-specific fixed effects control the heteroskedasticity and unobserved heterogeneity (Amiti and Khandelwal, 2013; Feng et al., 2017). Regarding the moderation effect, this study applied the polynomial regression in order to assess the interaction between dynamic export pricing and market dynamism, which allowed us to extend the model to spatial dimension and provide the fit lines (Edwards, 2002). Thus, this study assessed the conceptual framework by combing the two-way fixed effect panel model and polynomial regression as:

$$EP_{jit} = \alpha_{1i} + \alpha_{2i} dpt_{jit} + \alpha_{3i} dpt_{jit}{}^2 + \alpha_{4i} MD_{it} + \alpha_{5i} MD_{it} dpt_{jit} + \alpha_{6i} MD_{it} dpt_{jit}{}^2 + \eta_t C_t + \kappa_{ji} + \nu_t + \varepsilon_{jit} \quad (4)$$

where j stands for venture j, i for export country i, and t for time; EP_{jit} denotes venture-level export performance; dpt_{jit} refers to the transformed dynamic export pricing; MD_{it} is the vector of export market dynamisms*;* C_t is the vector of control variables; κ_{ji} and ν_t are unknown export venture specific and time specific effects respectively; and ε_{jit} is the residual term, which is assumed to be serially uncorrelated independent normal distributed with zero mean. As this study focuses

on the customer and competitive aspects of market dynamism, the MD_{it} could be written as:

$$MD_{it} = [cusd_{it}, comd_{it}] \tag{5}$$

where $cusd_{it}$ denotes the customer dynamism at time *t* in country *i*, and $comd_{it}$ denotes the competitive dynamism at time *t* in country *i*.

Then, in order to capture the feedback from past dynamic export pricing and export performance, this study introduces the past export performance as an independent variable and include the main effects of our key variables. Thus, the model could be formulated as

$$EP_{jit} = \gamma_{1i} + \beta EP_{ji(t-1)} + \gamma_{2i} dpt_{jit} + \gamma_{3i} dpt_{ji(t-1)} + \gamma_{4i} MD_{it} + \eta_t C_t + \kappa_{ji} + \varepsilon_{jit} \tag{6}$$

where $(t-1)$ denotes the previous year.

Noticeably, the past dependent variable tends to correlate with current residuals that generate a serious concern for the endogeneity problem (Flannery and Hankins, 2013). The traditional ordinary least-squared (OLS) estimation omits this endogeneity issue and leads to biased and inconsistent coefficients estimates (Arellano and Bond, 1991). In order to control the endogeneity problem and provide unbiased estimations of lagged export performance, this study then employs a dynamic panel model with system GMM estimates with a robust covariance matrix (Flannery and Hankins, 2013). As an improvement, the GMM method uses the differenced variables as the instrument for the level equations and the properly

lagged dependent variable as the instrument for the differenced equation (Blundell and Bond, 1998). The first difference equation is written as:

$$\Delta EP_{jit} = \beta \Delta EP_{ji(t-1)} + \gamma_{2i} \Delta dpt_{jit} + \gamma_{3i} \Delta dpt_{ji(t-1)} + \gamma_{4i} \Delta MD_{it} + \eta_t \Delta C_t + \varepsilon_{jit} \quad (7)$$

where $\Delta EP_{jit} = EP_{jit} - EP_{ji(t-1)}$, and analogously for the other variables.

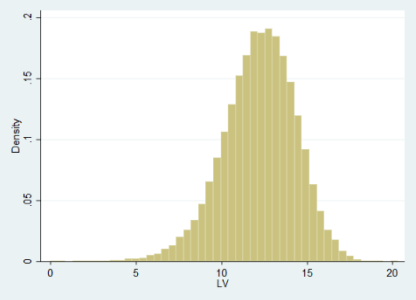
The first difference eliminates the time-invariant unobserved heterogeneity and removes the non-stationarity for the panel data, which thereby increases the confidence in the estimated coefficients and standard errors (Flannery and Hankins, 2013). The system GMM procedure combines both level and differenced functions as a system of equations that addresses the endogeneity concerns and generates consistent and efficient estimates (Garín-Munoz, 2006). Thus, this study sought to obtain the unbiased coefficient of lagged export performance by using the system GMM dynamic panel model.

4.4 Results

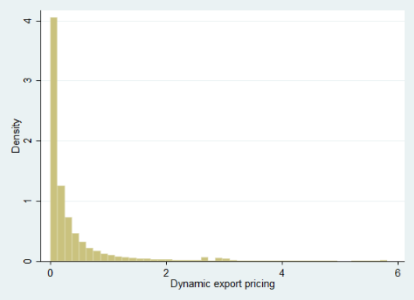
Our final sample after cleaning is a balanced panel data set that consists of 5,287 export ventures exported to 92 countries every year. In total, this study has 52,870 observations through ten years, and 47,583 for the lag-one-year panel. Table 3 presents the descriptive statistics and correlation metrics of the sample and Figure 2 illustrates the histograms of the key variables.

Table 3 Descriptive statistics

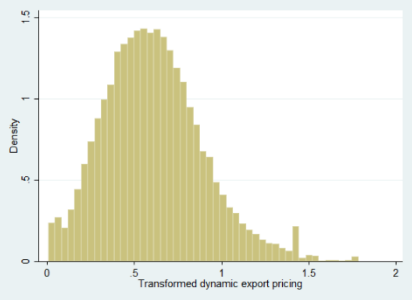
	Variable	1	2	3	4	5	6	7	8	9
1	Logarithmic export sales value (EP_{jit})	1.00								
2	Dynamic export pricing (dp_{jit})	-0.09	1.00							
3	Transformed dp_{jit} (dpt_{jit})	-0.06	0.60	1.00						
4	Customer dynamism ($cusd_{it}$)	0.04	0.02	-0.00	1.00					
5	Competitive dynamism ($comd_{it}$)	-0.01	-0.00	-0.07	0.21	1.00				
6	Logarithmic experience ($Experience_{jt}$)	0.02	0.00	-0.06	0.33	0.21	1.00			
7	Logarithmic total asset ($Total\_asset_{jt}$)	0.15	0.07	0.01	0.17	0.09	0.20	1.00		
8	Logarithmic firm size ($Firm\_size_{jt}$)	0.11	-0.00	0.00	0.09	0.03	0.17	0.67	1.00	
9	Logarithmic exchange rate ($exchange_{it}$)	0.09	0.01	0.04	0.17	0.17	0.02	-0.07	-0.11	1.00
	Mean	12.19	0.41	0.61	0.15	0.07	2.35	11.21	6.19	0.18
	Standard deviation	2.11	1.20	0.28	0.07	0.04	0.49	1.44	1.14	2.49
	Minimum	0	0	0.01	0.02	0.01	0	6.65	1.10	-5.66
	Maximum	20.32	48.43	1.78	0.46	0.22	4.45	17.08	9.69	8.21



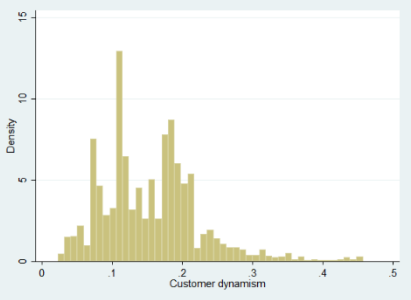
(a) Logarithmic export sales value



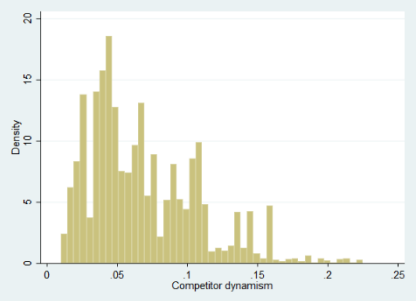
(b) Dynamic export pricing



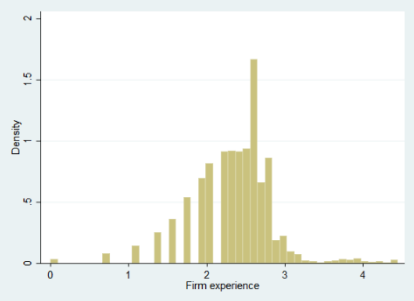
(c) Transformed dynamic export pricing



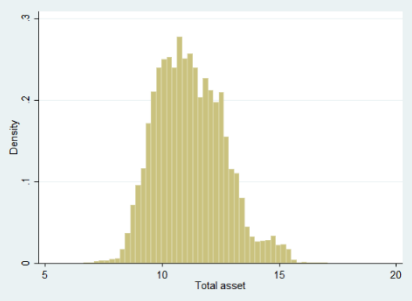
(d) Customer dynamism



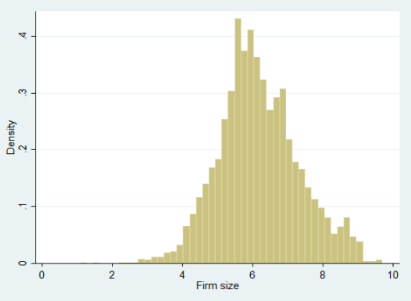
(e) Competitive dynamism



(f) Logarithmic experience



(g) Logarithmic total asset



(h) Logarithmic firm size

Figure 2 Histogram of key variables

As the dependent variable, export performance, appears to have a large scale. First, this study took the logarithmic transformation to reduce its range scale and maintain its normality. Additionally, this study took the logarithmic value instead of the original value for all control variables, and took the mean-centred value of all predictors before creating quadratic and interaction terms. This is necessary as it reduces the concern of multicollinearity between the first-order terms and their associated higher-order terms (Edwards, 2002). It also facilitates the interpretation of the fit line (Edwards, 2002). Table 4 summarizes the empirical results for the customer dynamism and competitive dynamism.

Models 1 – 4 assess the moderating role of customer dynamism, and Models 5 – 6 test the moderating effects of competitive dynamism. The last model, Model 9, is the full model that includes all the main effects and interaction terms. In addition, despite the baseline models (Model 1 and Model 5) that are estimated by the maximum likelihood regression as they only include the first-order key independent variables and control variables, the other models are estimated by the two-way fixed effect panel model with robust variances that control the specific individual and time effects. The results indicate that dynamic export pricing plays non-negligible roles in export performance. In Model 2, I add the quadratic terms of dynamic export pricing. The estimation results show the significant negative quadratic terms of dynamic export pricing. The estimates for the first-order and second-order terms are 0.15 and -0.83 respectively, which generate the turning point value $\widehat{dpt_{jit}} = 0.09$, and this value falls into the mean-centered dynamic export pricing [-0.60, 1.17]. This result consistently holds among other models. Figure 3 shows the curvilinear relationship between dynamic export pricing and export performance. Thus, the results indicate that there is

Table 4 Moderating effects of (a) customer dynamism and (b) competitive dynamism on dynamic export pricing-export performance

Dependent:	Moderating effects of customer dynamism				Moderating effects of competitive dynamism				Full Model
$\boldsymbol{EP_{jit}}$	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Independent									
dpt_{jit}	0.17***	0.15***	0.15***	0.15***	0.18***	0.14***	0.14***	0.15***	0.44***
	(0.03)	(0.04)	(0.04)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.08)
${dpt_{jit}}^2$		-0.83***	-0.82***	-0.83***		-0.85***	-0.85***	-0.87***	-1.11***
		(0.07)	(0.07)	(0.07)		(0.08)	(0.08)	(0.08)	(0.17)
Moderators									
$cusd_{it}$	0.78***	0.96***	0.91***	0.72**					0.64**
	(0.11)	(0.22)	(0.22)	(0.23)					(0.24)
$comd_{it}$					-0.87***	-0.03	0.01	-0.30	-0.18
					(0.18)	(0.23)	(0.26)	(0.29)	(0.29)
Interactions									
$cusd_{it} * dpt_{jit}$			-1.52***	-1.86***					-1.99***
			(0.41)	(0.41)					(0.43)
$comd_{it} * dpt_{jit}$							1.56*	1.02	1.59†
							(0.73)	(0.76)	(0.67)
$cusd_{it} * {dpt_{jit}}^2$				1.99*					1.79*
				(0.88)					(0.77)
$comd_{it} * {dpt_{jit}}^2$								3.42*	2.54†
								(1.48)	(1.51)
Controls									
$Experience_{jt}$	-0.07***	0.03	0.03	0.03	-0.03	0.01	0.01	0.01	0.02
	(0.02)	(0.04)	(0.04)	(0.04)	(0.02)	(0.04)	(0.04)	(0.04)	(0.04)
$Total\_asset_{jt}$	0.69***	0.19***	0.19***	0.19***	0.68***	0.19***	0.19***	0.19***	0.19***
	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
$Firm\_size_{jt}$	0.41***	0.27***	0.27***	0.27***	0.43***	0.28***	0.28***	0.28***	0.28***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
$exchange_{it}$	0.13***	-0.06	-0.06	-0.06	0.15***	-0.12*	-0.12*	-0.12*	-0.08†
	(0.01)	(0.05)	(0.05)	(0.05)	(0.01)	(0.05)	(0.05)	(0.05)	(0.05)
Ownership	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	-	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes
Overall R2	-	0.02	0.02	0.02	-	0.02	0.02	0.02	0.02

† if p < 0.10, * p < 0.05, ** p <0 .01, *** p < 0.001.

an inverted-U relationship between the dynamic export pricing and export performance, thereby supporting the first hypothesis, H1.

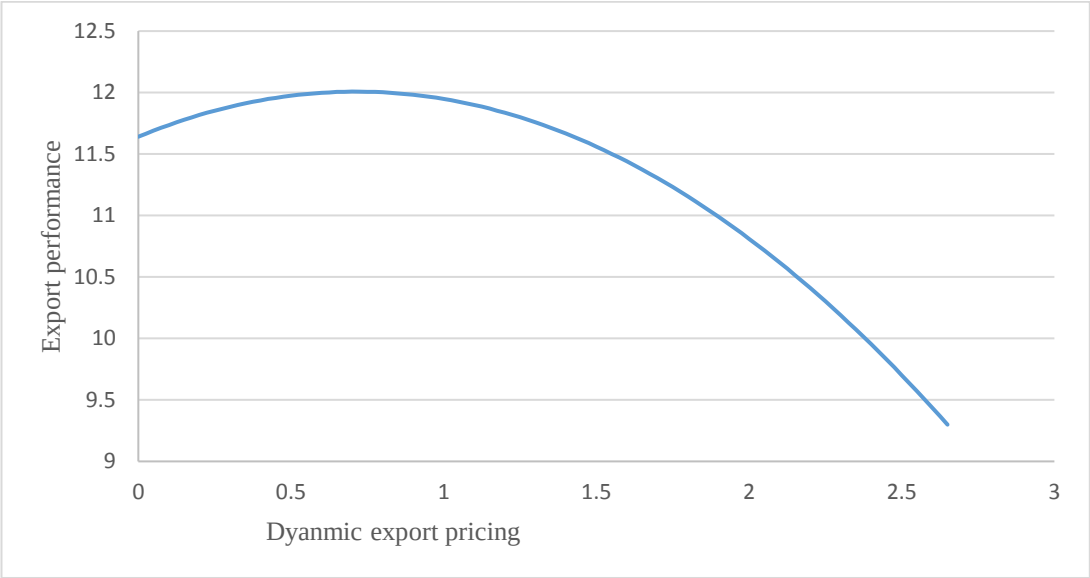
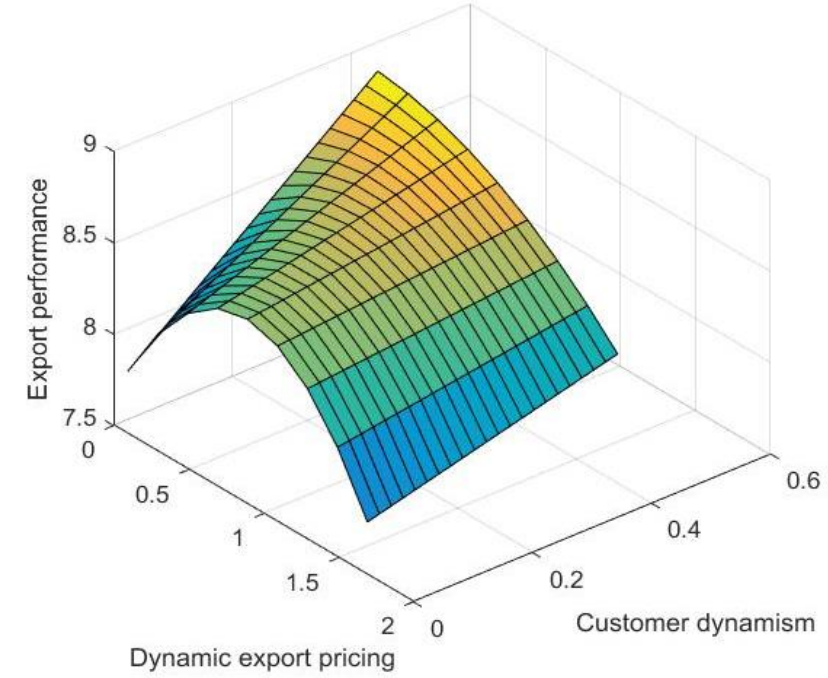


Figure 3 Quadratic relationship between dynamic export pricing and export performance

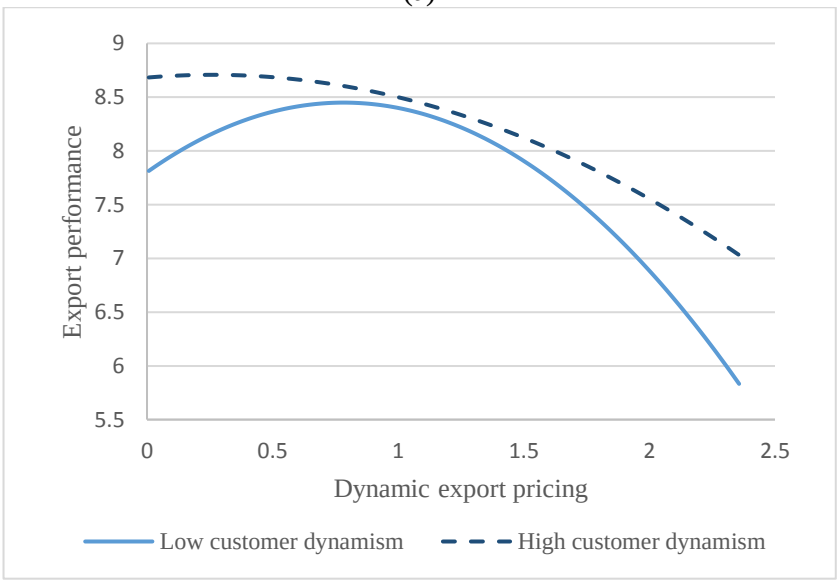
With respect to the moderating effects of market dynamism, the results suggest that both customer dynamism and market dynamism play key roles in affecting the relationship between dynamic export pricing and export performance. Specifically, regarding customer dynamism, Model 3 includes the linear interaction term between first-order dynamic export pricing and customer dynamism ($cusd_{it}dpt_{jit}$), and Model 4 further adds the quadratic interaction term between squared dynamic export pricing and customer dynamism ($cusd_{it}dpt_{jit}{}^{2}$). The results suggest that customer dynamism significantly moderates the quadratic relationship between dynamic export pricing and export performance, where the coefficient of the linear interaction term is negative (-1.52) and the coefficient of the quadratic interaction term is positive (1.99). The nature of the interactions between dynamic export pricing and

customer dynamism is shown in Figure 4: panel (a) is the 3D plot and panel (b) is the curves under high and low customer dynamism.

Specifically, Figure 4(a) shows the relationship between dynamic export pricing and export performance along with continuously changing customer dynamism. As shown in Figure 4(a), along with increasing customer dynamism, the shape of the curve between dynamic export pricing and export performance is flattened. It indicates that, in the market with high customer dynamism, the performance becomes less sensitive to changes of dynamic export pricing. This result is better illustrated in Figure 4(b). Figure 4(b) provides a direct comparison of the curves between dynamic export pricing and export performance under high and low customer dynamism. As shown in Figure 4(b), high dynamic export performance generates better performance in markets with high customer dynamism, where the descending slope is smaller in the markets with high customer dynamism than those with low customer dynamism. It shows that, when customer dynamism is high, the over-estimated dynamic export pricing has less negative influence on export performance, which, in turn, leads to a relatively better export performance. In contrast, low export pricing dynamism appears to have stronger positive effects on export performance in markets with low customer dynamism.



(a)



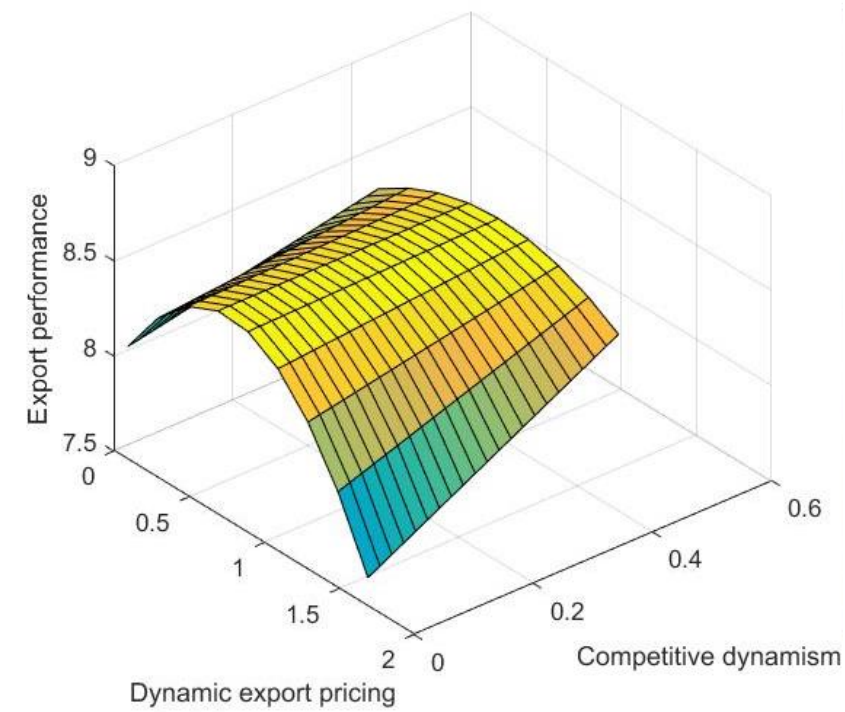
(b)

Figure 4 Moderating effects of customer dynamism on inverted quadratic relationship between dynamic export pricing and export performance

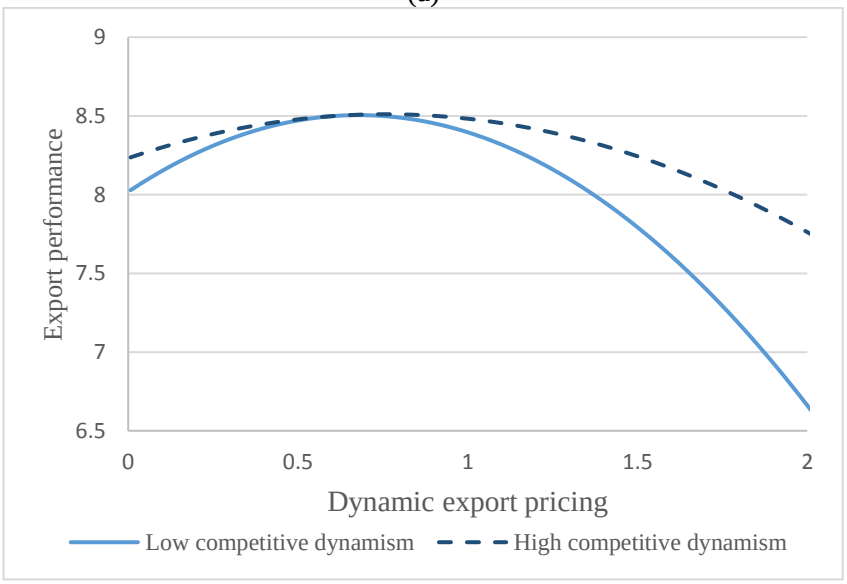
Furthermore, regarding competitive dynamism, Model 7 and Model 8 additionally include the linear interaction term ($comd_{it}dpt_{jit}$) and the quadratic interaction term ($comd_{it}dpt_{jit}{}^{2}$) between first-order dynamic export pricing and competitive

dynamism, respectively. The results suggest that the competitive dynamism significantly moderates the quadratic relationship between dynamic export pricing and export performance with significant positive coefficients of both linear interaction (1.56) and quadratic interaction term (3.42). The nature of the interactions between dynamic export pricing and competitive dynamism is shown in Figure 5: panel (a) is the 3D plot and panel (b) is the curves under high and low competitive dynamism respectively.

Specifically, Figure 5(a) illustrates the relationship between dynamic export pricing and export performance along with continuously changing competitive dynamism. Analogous to Figure 4, Figure 5(a) shows that, along with increasing competitive dynamism, the shape of the curve between dynamic export pricing and export performance is flattened. It indicates that, in the market with high competitive dynamism, the performance becomes less sensitive to changes of dynamic export pricing. This result is also illustrated in Figure 5(b), which provides a direct comparison of the curves between dynamic export pricing and export performance under high and low competitive dynamism. It shows that increasing dynamic export pricing generally generates superior export performance in markets with high competitive dynamism than in markets with low competitive dynamism. Given the condition of over-setting dynamic export pricing, i.e., beyond the turning point, a unit increase in the dynamic export pricing engenders smaller negative effects on export performance in markets with high competitive dynamism than in markets with low competitive dynamism. In comparison, low dynamic export pricing has greater positive effects on export performance in markets with low competitive dynamism than those with high competitive dynamism.



(a)



(b)

Figure 5 Moderating effects of competitive dynamism on inverted quadratic relationship between dynamic export pricing and export performance

Model 9 is presented as a robustness check that includes both market dynamisms and all interaction terms. The results suggest that there is a consistently negative quadratic relationship between dynamic export pricing and export performance,

which indicates the existence of the maximum point of export performance. I could then calculate the fit lines that connect the optimal dynamic export pricing (turning point of the inverted quadratic curve) across export markets with different customer dynamism and competitive dynamism. By constraining the first derivative of the equation (4) to equal zero (Haans et al., 2016), it could be obtained that:

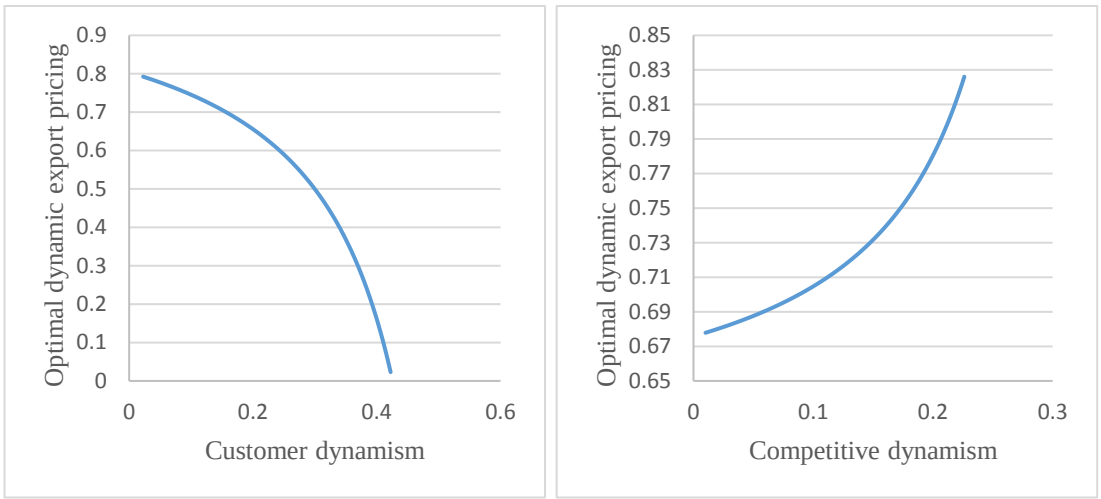
$$\frac{\partial EP}{\partial dpt} = (\alpha_{2i} + \alpha_{5i} MD_{it}) + 2 * (\alpha_{3i} + \alpha_{6i} MD_{it}) dpt_{jit} = 0 \qquad (8)$$

where α_{2i} indicates the estimated parameter of the transformed dynamic export pricing; α_{5i} denotes the estimated parameter of first-order interaction between transformed dynamic export pricing and market dynamism; α_{3i} indicates the estimated parameter of the quadratic transformed dynamic export pricing; α_{6i} indicates the interaction between quadratic transformed dynamic export pricing and market dynamism. Hence, substituting the estimates of the Model 9 (for customer dynamism: $\alpha_{2i} = 0.44, \alpha_{5i} = -1.99, \alpha_{3i} = -1.11, \alpha_{6i} = 1.79$; for competitive dynamism: $\alpha_{2i} = 0.44, \alpha_{5i} = 1.59, \alpha_{3i} = -1.11, \alpha_{6i} = 2.54$) into equation-(8), I can receive the fit lines as:

$$\begin{cases} customer\ dynamism: \widehat{dpt} = (0.44 - 1.99 * cusd) / [2 * (1.11 - 1.79 * cusd)] \\ competitive\ dynamism: \widehat{dpt} = (0.44 + 1.59 * comd) / [2 * (1.11 - 2.54 * comd)] \end{cases} \qquad (9)$$

These are the lines of fit between the strategic decision (dynamic export pricing) and contextual variables (customer dynamism and competitive dynamism) in maximizing the export performance. In order to better illustrate the changes in the optimal dynamic export pricing under different customer dynamism and competitive dynamism, Figure 6 visualizes the fit lines. Along the fit lines, the downward curvature is minimized, where the fitted response surface has the slightest slope.

Figure 6(a) suggests that the optimal dynamic export pricing decreases along with increasing customer dynamism, where the low dynamic export pricing is recommended in the markets with high customer dynamism, while relatively high dynamic export pricing is preferable in markets with low customer dynamism. Together with the results in Model 4, hypothesis H2(a) is supported. This trajectory between optimal dynamic export pricing and customer dynamism shows that alignment between strategic dynamism and market dynamism does not always hold in a positive way; high market dynamism does not necessitate the needs for the high export pricing dynamism, and vice versa. Figure 6(b) shows that there is a positive relationship between optimal dynamic export pricing and competitive dynamism, where the best dynamic export pricing practices increase along the increasing competitive dynamism. Together with the results in Model 8, hypothesis H2(b) is supported.



(a) (b)

Figure 6 The fit lines between dynamic export pricing and (a) customer dynamism, (b) competitive dynamism in maximizing export performance

Finally, in order to assess the effect of dynamic export pricing on sustained export performance over time, this study adds the past export performance and past dynamic export pricing to the model. Due to the performance consistency, it is easy to suspect that the last-year export performance $EP_{ji(t-1)}$ is correlated with the current-year residual term ε_{jit} so that $EP_{ji(t-1)}$ is considered as an endogenous variable. Facing the endogeneity concerns, the estimation results from the two-way fixed panel model appear to be inconsistent and biased (Nickell, 1981; Keele and Kelly, 2006). To enhance the model, this study applied the dynamic panel model with a two-step system GMM estimation method that includes both the level equation and the differenced equation (Griffith and Dimitrova, 2014). Blundell and Bond (1998) suggest the system GMM to use T-2 extra moment restrictions, which use the lagged differences as the instruments for the level. Following Blundell and Bond's (1998) method, both exogenous variables and the lagged differenced terms are used as the instruments of the endogenous variables. This study lists both customer dynamism and competitive dynamism as exogenous variables. Furthermore, we list other exogenous variables as instrumental variables, including year dummy variables. In addition, this study considers the dynamic export pricing as predetermined variables, as the past export performance may affect the current shocks of dynamic export pricing.

As this study focuses on the intertemporal effects of the past performance and dynamic export pricing, it only includes the main effects in the system GMM dynamic panel model. To diagnose the quality of the instruments and validity of the system GMM estimator, I compute the Sargan test and Hansen test for overidentifying restrictions, as well as the Arellano-Bond test for the first- and

second-order serial correlations. To further enhance the robustness of the coefficient, we compute the two-step GMM model with robust variance. Table 5 summarizes the estimations by the system GMM dynamic panel model and the corresponding long-term coefficients.

Table 5 System GMM model of dynamic export pricing on export performance and the long-run coefficients

Dependent: EP_{jit}	Coefficient	Std.Err.	Long-term coefficient	Std.Err.
$EP_{ji(t-1)}$	0.57***	0.07		
dpt_{jit}	-0.26	0.38	-0.62	0.69
$dpt_{ji(t-1)}$	0.50*	0.24	1.16†	0.64
Moderators				
$cusd_{it}$	-12.09***	2.96	-28.26***	8.97
$comd_{it}$	-8.16*	4.39	-19.07†	11.04
Control variables				
$Experience_{jt}$	-0.46	0.33	-1.07	0.79
$Total\_asset_{jt}$	0.00	0.78	0.01	1.82
$Firm\_size_{jt}$	-0.66	1.16	-1.53	2.78
$exchange_{it}$	2.12***	0.50	4.96**	1.74
Ownership	Yes			
Year	Yes			
AR(1) test	z = -7.60, p-value < 0.001			
AR(2) test	z = -1.28, p-value = 0.20			
Sargan test	$\chi^2(7)$ = 7.63, p-value =0.37			
Hansen test	$\chi^2(7)$ = 9.84, p-value =0.20			

† if p < 0.10,
* p < 0.05,
** p <0 .01,
*** p < 0.001.

As Table 5 indicates, the Sargan test and the Hansen test system GMM dynamic panel model result with a p-value of 0.37 and 0.20, respectively, both of which suggest valid and good-quality instruments that are not overidentified. In addition, the autocorrelation tests, i.e., AR(1) and AR(2) tests, are also crucial to the consistency of GMM estimator results. Because the second-order differenced terms are used as the instruments of the endogenous variable, it requires meeting the assumptions that the first-order autocorrelation, AR(1), is significant and the second-order autocorrelation, AR(2), is non-significant. Our test results of AR(1) (z = -7.60,

p<0.001) and AR(2) (z = -1.28, p=0.20) provide acceptance of this underlying assumption. Therefore, this study concludes that the instruments employed in the models are valid, and the system GMM estimator is appropriate for our empirical work.

The results suggest that previous year export performance ($EP_{ji(t-1)}$) tend to have significant positive effects on current year export performance (EP_{jit}) (with coefficient 0.57). Also, the previous year dynamic export pricing ($dpt_{ji(t-1)}$) has significant positive effects on current year export performance (EP_{jit}) (with coefficient 0.50). Moreover, the lagged effect from the past performance leads to all temporary effects tend to have attenuated coefficient on the future performance, where the coefficient of the previous year export performance is considered as the discount factor of the rate of attenuation. Based on the estimations of the lagged terms, this study can calculate the long-term effects of dynamic export pricing on export performance. Shown in Table 5, by comparing the long-term effect and short-term effect, the positive coefficient of the past export performance leads to the accumulative effects of export pricing on export performance over time, where the long-term coefficients of both dimensions of export pricing appear to be amplified. As the past dynamic export pricing has both direct and indirect effects on the current export performance, the corresponding long-run coefficient is calculated as $(\gamma_{2\mathrm{i}} + \gamma_{3\mathrm{i}})/(1-\beta)$ (Egger and Pfaffermayr, 2005). Then, the long-term fit lines are calculated as:

$$\begin{cases} customer\ dynamism: \widehat{dpt} = (0.94 - 1.99 * cusd)\ /[2 * (1.11 - 1.79 * cusd)] \\ competitive\ dynamism: \widehat{dpt} = (0.94 + 1.59 * comd)\ /[2 * (1.11 - 2.54 * comd)] \end{cases} \quad (10)$$

Comparing the long-term and short-term fit lines show that positive intertemporal effects from past export performance and dynamic export pricing positively shift the fit between dynamic export pricing and two aspects of market dynamism in the long run, thereby supporting H3. Delicate over-estimated dynamic export pricing might lead to the superior export performance from a long-term perspective.

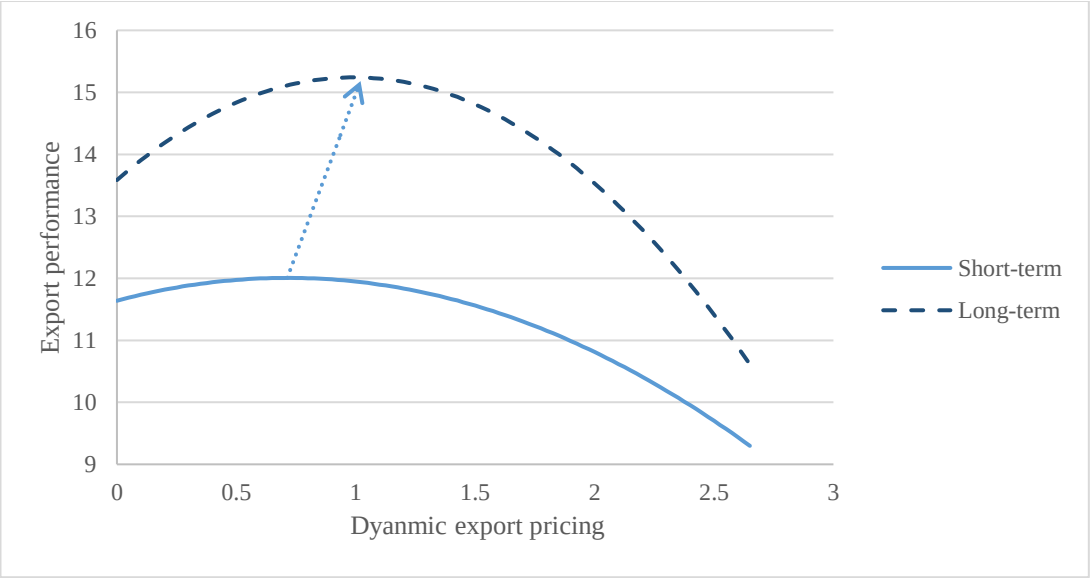


Figure 7 Long-term and short-term relationships between dynamic export pricing and export performance

In order to better demonstrate the differences between the short-term and long-term relationships, this study plots the changes in the curve between dynamic export pricing and export performance, as shown in Figure 7. The dotted arrow in Figure 7 shows that long-term optimal dynamic export pricing is larger than a short-term one. In addition, the best degree of export pricing dynamism that helps to achieve long-term fit is also larger the one in achieving short-term fit. It suggests that the short-term fit does not necessarily lead to the long-term fit. The moderately over-dynamic export pricing may suppress the export performance in a short term, but generates the

superior export performance in a long run. Finding the trade-off between the short-term fit and long-term sustainability is of particular importance for export managers and researchers to consider.

CHAPTER 5 DISCUSSION

The knowledge of pricing in the international context still lacks sound theoretical underpinnings, and therefore there are few practical guidelines (Obadia, 2013; Sousa et al., 2014). This study provides valuable insights into the international pricing efforts by empirically examining the power of dynamic pricing in an exporting context. The focus on dynamic export pricing augments traditional capacity-control revenue management by dynamically adjusting capacity allocations to different prices over time (Levin et al., 2009). Traditionally, exporting firms have been reluctant to consider strategic pricing, as price sensitivity research for the international market is costly (Cope, 2007). However, fast-moving customer preferences and intensive competition in the global market force exporting firms to be dynamic and flexible. As shown in this study, dynamic export pricing is a powerful marketing tool for exporting firms that helps them manage demand and react to competitors' movements.

Noticeably, the strategic decision of dynamic export pricing is computationally intensive, as it is made at a highly disaggregated level regarding individual export ventures in individual export markets (Chen et al., 2017). By employing the venture-level data, first, this study investigated an inverted-U shaped relationship between dynamic export pricing and export performance. Second, this study further examined the moderating role of two key aspects of market dynamisms in this inverted-U shaped relationship from two mechanisms: changes of the curve and shifts of the turning point. Particularly, the shifts of the turning point delineate the fit lines that

pinpoint the best dynamic export pricing practice under different customer and competitive dynamisms. Third, this study examined the lagged influence from past export performance and dynamic export pricing on current export performance, which shed light on the '*sustainability'*. The findings show the evolutionary effects of the dynamic strategies and thereby provide a better understanding of shaping superior export performance in the long term.

5.1 Theoretical implications

The dynamic capabilities view has emerged as one of the most promising theoretical bases in the strategic management area over the past ten years (Barreto, 2010; Barrales-Molina et al., 2014). Despite its popularity in the literature, the dynamic capabilities view has been criticized for its ill-defined and confounding boundary conditions (Schilke, 2014). In addition, the linear operationalization of the dynamic capabilities view by cross-sectional data prevents empirical investigation on the concept of 'sustainability' and limits assessment of the 'appropriateness' of marketing strategies across markets (Cadogan et al., 2009; Kozlenkova et al., 2014).

By investigating the quadratic relationship between dynamic export pricing and export performance, this study empirically shows export performance is affected by dynamic export pricing. Furthermore, the change of export performance is sensitive to the degree of export pricing dynamism. This finding is of theoretical importance as it helps to delineate the degree of dynamism, where neither under- nor over-dynamic export pricing helps to generate the superior performance. Dynamic export pricing can only improve export performance within a certain interval. The results contribute to the theory by providing a quantified answer to the first research

question in that only an intermediate level of export pricing dynamism can generate superior export performance. Invariant export pricing leads to exporting firms losing their strategic flexibility and failing to compete in the fast-moving global market (Barreto, 2010; Tang and Liou, 2010), whereas, beyond a certain level, continually increasing the emphasis on export price dynamics can be counterproductive for improving export performance (Liu and Zhang, 2013).

In addition, this study further investigates that the curvilinear relationship between dynamic export pricing and export performance is moderated by market dynamism in two ways: (1) changes of the curve and (2) shifts of the turning point. This effort fills a gap in the literature with respect to the blurred moderation of U-shape highlighted by Haans et al., (2016), as a large proportion of studies do not consider these two distinct mechanisms of moderation on a curve. Moreover, the results highlight strategic fit between dynamic export pricing and market dynamism, thereby delineating boundary conditions of the dynamic capabilities view. It contributes to the dynamic capabilities view by investigating that market velocity plays an important role in shaping the effectiveness of marketing strategy. In this study, both customer and competitive dynamisms do not only change the shape of the curvature between dynamic export pricing and export performance, but also shift the best practice of dynamic export pricing strategy. Moreover, this thesis shows that successful dynamic export pricing strategy is not isolated and unaltered, but varies with individual export markets featured by different customer and competitive dynamism. By estimating fit lines that connect all points of fit, this study provides a policy of dynamic export pricing that empirically pinpoints the optimal dynamic export pricing in different export markets in order to achieve superior export

performance. Our empirical results suggest that the optimal dynamic export pricing increases along with the increasing competitive dynamism, but decreases along with the increasing customer dynamism, thereby answering the second research question. These findings expand the scope of the dynamic capabilities view. Although Teece's (1997) definition of dynamic capabilities depicts a 'rapidly changing environment', it is important to note that the dynamic capabilities are not necessarily equated with a high dynamic environment, whereas it may still hold true in moderately dynamic or even stable markets (Eisenhardt and Martin, 2000; Schilke, 2014). The findings suggest that growing market dynamism does not always associate with the increasing strategic dynamism. The efficient strategic adjustments in response to a changing environment vary with the specific market conditions (Eisenhardt and Martin, 2000; den Boer, 2015).

Furthermore, by examining the lagged effects of the past export performance and dynamic export pricing on the current export performance, this study finds positive feedback from past activities and outcomes. Audia *et al.* (2000) suggest that neglecting the significance of past performance may lead to overestimating the strategy-performance relationship. The system GMM dynamic panel model resolves the concerns of endogeneity and individual heterogeneity, thereby providing robust and unbiased estimations of dynamic export pricing by separating the influence from past activities and achievements (Uotila et al., 2009). The results disclose the long-term evolution of the relationship between dynamic export pricing and export performance and provide an answer to the third research question.

This effort facilitates the dynamic capabilities view by examining the evolution of the interactions between dynamic export pricing and market dynamism in the long

term, which is of particular importance but has been largely neglected. It also offers a valuable view of sustainability for the exporting firms (Schwartz and Smith, 2000; Donaldson, 2001; Burkert et al., 2014). The results delineate the difference between the short-term and long-term fit, where the short-term strategic fit does not necessarily lead to long-term sustainability. It is important to notice the lagged effect from the past performance, as it leads to different dynamic strategic plan between the short and long-term targets. It suggests that marginally over-estimated export pricing dynamism may potentially lead to a sustained competitive advantage. In order to achieve a short-term fit as well as long-term sustainability, it is important to acknowledge these relationships and endeavour to search for the best dynamic export pricing practices.

5.2 Managerial implications

This study offers useful practical implications for export managers. First, dynamic export pricing is a helpful marketing instrument for exporters to relieve the disturbance from export markets (Haws and Bearden, 2006; Tan and Sousa, 2011). In particular, dynamic export pricing helps to improve export performance only within a certain level; when it is either too dynamic or too static, the export price cannot generate superior export performance. The optimal degree of export pricing dynamism offers a way to seek a trade-off between the market commitment and strategic flexibility.

Second, the best choice of export pricing dynamism adapts to different market conditions. Export managers need to be conscious of the market dynamism when developing an efficient dynamic export pricing strategy. When facing high customer

dynamism, relatively low export pricing dynamism is recommended. On the other hand, increasing dynamic export pricing is suggested when dealing with high competitive dynamism. Export managers need to investigate the export market conditions and monitor the market dynamism (den Boer, 2015).

Third, the past export performance and dynamic export pricing tend to have lagged effects on future export performance. Export managers should deliberate the dynamic export pricing that potentially provides a sustained competitive advantage. This result highlights the need for export managers to take advantage of previous export performance and understand the pattern of the intertemporal change of strategic fit in order to help make appropriate strategic decisions to enhance current and future export sales.

Fourth, the results suggest that different dynamic export pricing schemes are suggested between the short-term performance and long-term performance. When an export manager is targeting on long-term successes, the over-dynamic export pricing may be detrimental to the short-term performance, but helps to lead to the superior export performance in a long run. Thus, export managers should deliberate the trade-off between the short-term optimal and long-term sustained export performance. The past export performance appears to affect the future export performance, where the fit changes over time as well. This compelling result arises particular attention to export managers to take the advantage of the previous export performance and understand the pattern of intertemporal change of contingency fit, thus make appropriate strategic decisions to gain sustainable competitive advantages to enhance the current and future export sales.

5.3 Limitations and directions for future studies

The implications drawn from this study may be tempered by several limitations. First, although very extensive, our sample focuses on exporting ventures from one emerging country (China), and to manufacturing only. Chinese firms are characterized by certain characteristics (e.g., unique ownership, unique affiliation with the government) that may limit the generalizability of our findings (Sousa and Tan, 2015). Particularly, this could weaken the implications of the effect of country of origin. Future studies should, therefore, compare dynamic export pricing practices across different origin markets to offer future understanding of the influence of country of origin on dynamic export pricing efforts.

Second, the present study examines dynamic pricing in an exporting context. Although exporting firms provide an excellent context for empirically investigating the efficiency of dynamic pricing underlying various market conditions, future studies are recommended to explore dynamic pricing efforts among other internationalization modes (e.g., joint venture, FDI). As a number of multinational firms tend to choose hybrid channels (He et al., 2013), it would be particularly worthwhile to examine dynamic pricing efforts across internationalization modes to further strengthen the understanding of dynamic pricing in the international business.

Third, future studies are encouraged to investigate dynamic export pricing in the service sector. In this study, the date set focuses on manufacturing exporting firms, and do not consider service firms. This is because the trade in services has different peculiarities from manufacturing, which requires separate consideration (Bernini et al., 2016). The nature of commercial services is intangible; the inseparability of

production and consumption of service requires direct reciprocity between service employees and customers, which highlights the importance of the marketing strategies (Chen et al., 2016). Therefore, there is a need to separately consider dynamic export pricing in the service sector, which in turn may help to advance theoretical understanding regarding the crucial role of intangibility in dynamic pricing.

Fourth, this study focuses on two dimensions of market dynamism (i.e., customer dynamism and competitive dynamism), both of which are highlighted by the dynamic capabilities view. As there are other potential reasons that moderate the relationships between dynamic export pricing and export performance, future studies are encouraged to consider other external environmental turbulences (e.g., government intervention, institution dynamism). It would further facilitate the dynamic capabilities view by refining its boundary conditions. Moreover, the impact on competitive advantage comes not only from external markets, but also more insidiously from internal environment (Eisenhardt and Martin, 2000). Firms' internal environment also plays a crucial role in shaping the outcomes of strategic choices. For example, the information systems imply a firm's capabilities of information acquisition, processing, dissemination, and utilization, which may affect the efficiency and effectiveness of marketing strategies (Theodosiou and Katsikea, 2013). Hence, subsequent research should explore the moderating effect of the internal environment when investigating dynamic export pricing.

CHAPTER 6 CONCLUSION

Dynamic pricing is a particularly viable strategy for international firms to gain competitive advantages in an environment of rapid changes and intensive competition in the global markets (Tan and Sousa, 2011). This thesis has investigated the nature of dynamic pricing in an exporting context. By employing a large panel data set of Chinese exporters, this study examined this issue from a longitudinal perspective conditioning on robust and reliable estimations. The empirical results first indicate a negative quadratic link between dynamic export pricing and export performance, which shows the importance of the degree of pricing dynamism in improving export performance.

Second, it explored the two types of moderation effects of market dynamism, including customer dynamism and competitive dynamism, on the curvilinear relationship between dynamic export pricing and export performance. The results suggest that facing an export market with low market dynamism, low dynamic export pricing generates greater growth to the export performance. In contrast, high dynamic export pricing in a market with high market dynamism, where exporting firms perform poorly by nature, appears to have better performance than that in a market with low market dynamism. Horizontally, by illustrating the shifts of the turning point, increasing competitive dynamism aligns with increasing competitive dynamism but decreasing customer dynamism. It explains the environmental conditions that provide the best export performance, and the performance of dynamic export pricing across markets.

Third, this study incorporated a time dimension by examining the effects of past dynamic export pricing and export performance on the later export performance. The results indicate that both past dynamic export pricing and export performance have positive effects on subsequent export performance, thereby positively shifting the fit between dynamic export pricing and market dynamism over time. This indicates an evolutionary fitness highlighted by the dynamic capabilities view, and thereby implies sustained competitive advantage.

REFERENCES

Adjei, M. T., Griffith, D. A. and Noble, S. M. (2009), "When do relationships pay off for small retailers? Exploring targets and contexts to understand the value of relationship marketing", *Journal of Retailing,* Vol. 85 No. 4, pp. 493-501.

Amiti, M. and Khandelwal, A. K. (2013), "Import competition and quality upgrading", *Review of Economics and Statistics,* Vol. 95 No. 2, pp. 476-490.

Arellano, M. and Bond, S. (1991), "Some tests of specification for panel data: Monte carlo evidence and an application to employment equations", *Review of Economic Studies,* Vol. 58 No. 2, pp. 277-297.

Audia, P. G., Locke, E. A. and Smith, K. G. (2000), "The paradox of success: An archival and a laboratory study of strategic persistence following radical environmental change", *Academy of Management Journal,* Vol. 43 No. 5, pp. 837-853.

Barrales-Molina, V., Martínez-López, F. J. and Gázquez-Abad, J. C. (2014), "Dynamic marketing capabilities: Toward an integrative framework", *International Journal of Management Reviews,* Vol. 16 No. 4, pp. 397-416.

Barreto, I. (2010), "Dynamic capabilities: A review of past research and an agenda for the future", *Journal of Management,* Vol. 36 No. 1, pp. 256-280.

BenMark, G., Klapdor, S., Kullmann, M. and Sundararajan, R. (2017), "How retailers can drive profitable growth through dynamic pricing", *(working paper).*

Bernard, A. B. and Jensen, J. B. (2004), "Why some firms export", *Review of Economics and Statistics,* Vol. 86 No. 2, pp. 561-569.

Bernini, M., Du, J. and Love, J. H. (2016), "Explaining intermittent exporting: Exit and conditional re-entry in export markets", *Journal of International Business Studies,* Vol. 47 No. 9, pp. 1058-1076.

Bertrand, O. (2011), "What goes around, comes around: Effects of offshore outsourcing on the export performance of firms", *Journal of International Business Studies,* Vol. 42 No. 2, pp. 334-344.

Blundell, R. and Bond, S. (1998), "Initial conditions and moment restrictions in dynamic panel data models", *Journal of Econometrics,* Vol. 1 No. 87, pp. 115-143.

Boso, N., Story, V. M., Cadogan, J. W., Micevski, M. and Kadic-Maglajlic, S. (2013), "Firm innovativeness and export performance: Environmental, networking, and structural contingencies", *Journal of International Marketing*, Vol. 21 No. 4, pp. 62-87.

Boug, P. and Fagereng, A. (2010), "Exchange rate volatility and export performance: A cointegrated var approach", *Applied Economics*, Vol. 42 No. 7, pp. 851-864.

Brouthers, K. D. (2002), "Institutional, cultural and transaction cost influences on entry mode choice and performance", *Journal of International Business Studies*, Vol. 33 No. 2, pp. 203-221.

Brouthers, L. E. and Xu, K. (2002), "Product stereotypes, strategy and performance satisfaction: The case of chinese exporters", *Journal of International Business Studies*, Vol. 33 No. 4, pp. 657-677.

Burkert, M., Davila, A., Mehta, K. and Oyon, D. (2014), "Relating alternative forms of contingency fit to the appropriate methods to test them", *Management Accounting Research*, Vol. 25 No. 1, pp. 6-29.

Cadogan, J. W., Kuivalainen, O. and Sundqvist, S. (2009), "Export market-oriented behavior and export performance: Quadratic and moderating effects under differing degrees of market dynamism and internationalization", *Journal of International Marketing*, Vol. 17 No. 4, pp. 71-89.

Cadogan, J. W., Sundqvist, S., Puumalainen, K. and Salminen, R. T. (2012), "Strategic flexibilities and export performance: The moderating roles of export market-oriented behavior and the export environment", *European Journal of Marketing*, Vol. 46 No. 10, pp. 1418-1452.

Cavusgil, S. T. (1997), "Pricing for global markets", *The Columbia Journal of World Business*, Vol. 31 No. 4, pp. 66-78.

Chen, J., Sousa, C. M. P. and He, X. (2016), "The determinants of export performance: A review of the literature 2006-2014", *International Marketing Review*, Vol. 33 No. 5, pp. 626-670.

Chen, X., Hu, P. and Hu, Z. (2017), "Efficient algorithms for the dynamic pricing problem with reference price effect", *Management Science*, *(forthcoming)*.

Chung, H. F., Wang, C. L. and Huang, P.-h. (2012), "A contingency approach to international marketing strategy and decision-making structure among exporting firms", *International Marketing Review*, Vol. 29 No. 1, pp. 54-87.

Cope, E. (2007), "Bayesian strategies for dynamic pricing in e-commerce", *Naval Research Logistics*, Vol. 54 No. 3, pp. 265-281.

den Boer, A. V. (2015), "Tracking the market: Dynamic pricing and learning in a changing environment", *European Journal of Operational Research,* Vol. 247 No. 3, pp. 914-927.

Donaldson, L. (2001), *The contingency theory of organizations*, SAGE Publications, California.

Edwards, J. R. (2002), "Alternatives to difference scores: Polynomial regression analysis and response surface methodology", in *Advances in measurement and data analysis*. Jossey-Bass, San Francisco, pp. 350-400.

Egger, P. and Pfaffermayr, M. (2005), "Estimating long and short run effects in static panel models", *Econometric Reviews,* Vol. 23 No. 3, pp. 199-214.

Eisenhardt, K. M. and Martin, J. A. (2000), "Dynamic capabilities: What are they?", *Strategic Management Journal,* Vol. 21 No. 10/11, pp. 1105-1121.

Feng, H., Morgan, N. A. and Rego, L. L. (2017), "Firm capabilities and growth: The moderating role of market conditions", *Journal of the Academy of Marketing Science,* Vol. 45 No. 1, pp. 76-92.

Filatotchev, I., Liu, X., Buck, T. and Wright, M. (2009), "The export orientation and export performance of high-technology smes in emerging markets: The effects of knowledge transfer by returnee entrepreneurs", *Journal of International Business Studies,* Vol. 40 No. 6, pp. 1005-1021.

Flannery, M. J. and Hankins, K. W. (2013), "Estimating dynamic panel models in corporate finance", *Journal of Corporate Finance,* Vol. 19 No. February, pp. 1-19.

Garín-Munoz, T. (2006), "Inbound international tourism to canary islands: A dynamic panel data model", *Tourism Management,* Vol. 27 No. 2, pp. 281-291.

Girod, S. J. and Whittington, R. (2017), "Reconfiguration, restructuring and firm performance: Dynamic capabilities and environmental dynamism", *Strategic Management Journal,* Vol. 38 No. 5, pp. 1121-1133.

Griffith, D. A. and Dimitrova, B. V. (2014), "Business and cultural aspects of psychic distance and complementarity of capabilities in export relationships", *Journal of International Marketing,* Vol. 22 No. 3, pp. 50-67.

Haans, R. F. J., Pieters, C. and He, Z.-L. (2016), "Thinking about u: Theorizing and testing u- and inverted u-shaped relationships in strategy research", *Strategic Management Journal,* Vol. 37 No. 7, pp. 1177-1195.

Haws, K. L. and Bearden, W. O. (2006), "Dynamic pricing and consumer fairness perceptions", *Journal of Consumer Research,* Vol. 33 No. 3, pp. 304-311.

He, X., Brouthers, K. D. and Filatotchev, I. (2013), "Resource-based and institutional perspectives on export channel selection and export performance", *Journal of Management,* Vol. 39 No. 1, pp. 27-47.

He, X., Zhang, J. and Wang, J. (2015), "Market seeking orientation and performance in china: The impact of institutional environment, subsidiary ownership structure and experience", *Management International Review,* Vol. 55 No. 3, pp. 389-419.

Hultman, M., Katsikeas, C. S. and Robson, M. J. (2011), "Export promotion strategy and performance: The role of international experience", *Journal of International Marketing,* Vol. 19 No. 4, pp. 17-39.

Katsikeas, C. S., Samiee, S. and Theodosiou, M. (2006), "Strategy fit and performance consequences of international marketing standardization", *Strategic Management Journal,* Vol. 27 No. 9, pp. 867-890.

Keats, B. W. and Hitt, M. A. (1988), "A causal model of linkages among environmental dimensions, macro organizational characteristics, and performance", *The Academy of Management Journal,* Vol. 31 No. 3, pp. 570-598.

Keele, L. and Kelly, N. J. (2006), "Dynamic models for dynamic theories: The ins and outs of lagged dependent variables", *Political Analysis,* Vol. 14 No. 2, pp. 186-205.

Kozlenkova, I. V., Samaha, S. A. and Palmatier, R. W. (2014), "Resource-based theory in marketing", *Journal of the Academy of Marketing Science,* Vol. 42 No. 1, pp. 1-21.

Lages, L. F., Jap, S. D. and Griffith, D. A. (2008), "The role of past performance in export ventures: A short-term reactive approach", *Journal of International Business Studies,* Vol. 39 No. 2, pp. 304-325.

Lee, S.-H., Beamish, P. W., Lee, H.-U. and Park, J.-H. (2009), "Strategic choice during economic crisis: Domestic market position, organizational capabilities and export flexibility", *Journal of World Business,* Vol. 44 No. 1, pp. 1-15.

Levin, Y., McGill, J. and Nediak, M. (2009), "Dynamic pricing in the presence of strategic consumers and oligopolistic competition", *Management Science,* Vol. 55 No. 1, pp. 32-46.

Li, J., Vertinsky, I. and Zhang, H. (2013), "The quality of domestic legal institutions and export performance: Theory and evidence from china", *Management International Review,* Vol. 53 No. 3, pp. 361-390.

Li, M. and Simerly, R. L. (1998), "The moderating effect of environmental dynamism on the ownership and performance relationship", *Strategic Management Journal,* Vol. 19 No. 2, pp. 169-179.

Liu, H., Jiang, X., Zhang, J. and Zhao, X. (2013), "Strategic flexibility and international venturing by emerging market firms: The moderating effects of institutional and relational factors", *Journal of International Marketing,* Vol. 21 No. 2, pp. 79-98.

Liu, Q. and Zhang, D. (2013), "Dynamic pricing competition with strategic customers under vertical product differentiation", *Management Science,* Vol. 59 No. 1, pp. 84-101.

Maltz, E. and Kohli, A. K. (1996), "Market intelligence dissemination across functional boundaries", *Journal of Marketing Research,* Vol. 33 No. 1, pp. 47-61.

Manova, K. and Zhang, Z. (2012), "Export prices across firms and destinations", *Quarterly Journal of Economics,* Vol. 127 No. 1, pp. 379-436.

Murray, J. Y., Gao, G. Y. and Kotabe, M. (2011), "Market orientation and performance of export ventures: The process through marketing capabilities and competitive advantages", *Journal of the Academy of Marketing Science,* Vol. 39 No. 2, pp. 252-269.

Myers, M. B. (1999), "Incidents of gray market activity among u.S. Exporters: Occurrences, characteristics, and consequences", *Journal of International Business Studies,* Vol. 30 No. 1, pp. 105-126.

Myers, M. B., Cavusgil, S. T. and Diamantopoulos, A. (2002), "Antecedents and actions of export pricing strategy: A conceptual framework and research propositions", *European Journal of Marketing,* Vol. 36 No. 1/2, pp. 159-188.

Navarro-García, A., Arenas-Gaitán, J. and Rondán-Cataluña, F. J. (2014), "External environment and the moderating role of export market orientation", *Journal of Business Research,* Vol. 67 No. 5, pp. 740-745.

Navarro, A., Losada, F., Ruzo, E. and Díez, J. A. (2010), "Implications of perceived competitive advantages, adaptation of marketing tactics and export commitment on export performance", *Journal of World Business,* Vol. 45 No. 1, pp. 49-58.

Nickell, S. (1981), "Biases in dynamic models with fixed effects", *Econometrica,* Vol. 49 No. 6, pp. 1417-1426.

Obadia, C. (2013), "Competitive export pricing: The influence of the information context", *Journal of International Marketing,* Vol. 21 No. 2, pp. 62-78.

Otley, D. (2016), "The contingency theory of management accounting and control: 1980–2014", *Management Accounting Research,* Vol. 31 No. June, pp. 45-62.

Papanastasiou, Y. and Savva, N. (2017), "Dynamic pricing in the presence of social learning and strategic consumers", *Management Science,* Vol. 63 No. 4, pp. 919-939.

Peteraf, M., Di Stefano, G. and Verona, G. (2013), "The elephant in the room of dynamic capabilities: Bringing two diverging conversations together", *Strategic Management Journal,* Vol. 34 No. 12, pp. 1389-1410.

Raman, K. and Chatterjee, R. (1995), "Optimal monopolist pricing under demand uncertainty in dynamic markets", *Management Science,* Vol. 41 No. 1, pp. 144-162.

Sakia, R. M. (1992), "The box-cox transformation technique: A review", *Journal of the Royal Statistical Society. Series D (The Statistician),* Vol. 41 No. 2, pp. 169-178.

Schilke, O. (2014), "On the contingent value of dynamic capabilities for competitive advantage: The nonlinear moderating effect of environmental dynamism", *Strategic Management Journal,* Vol. 35 No. 2, pp. 179-203.

Schreyögg, G. and Kliesch-Eberl, M. (2007), "How dynamic can organizational capabilities be? Towards a dual-process model of capability dynamization", *Strategic Management Journal,* Vol. 28 No. 9, pp. 913-933.

Schwartz, E. and Smith, J. E. (2000), "Short-term variations and long-term dynamics in commodity prices", *Management Science,* Vol. 46 No. 7, pp. 893-911.

Singh, D. A. (2009), "Export performance of emerging market firms", *International Business Review,* Vol. 18 No. 4, pp. 321-330.

Slade, M. E. (1991), "Market structure, marketing method, and price instability", *Quarterly Journal of Economics,* Vol. 106 No. 4, pp. 1309-1340.

Smith, D. (2007), "A cross-cultural classification of service export performance using artificial neural networks: Japan, germany, united states", *Journal of Global Marketing,* Vol. 20 No. 1, pp. 5-19.

Sousa, C. M. P. (2004), "Export performance measurement: An evaluation of the empirical research in the literature", *Academy of Marketing Science Review,* Vol. 9 No. 12, pp. 1-23.

Sousa, C. M. P. and Bradley, F. (2008), "Antecedents of international pricing adaptation and export performance", *Journal of World Business,* Vol. 43 No. 3, pp. 307-320.

Sousa, C. M. P. and Bradley, F. (2009), "Effects of export assistance and distributor support on the performance of smes: The case of portuguese export ventures", *International Small Business Journal,* Vol. 27 No. 6, pp. 681-701.

Sousa, C. M. P. and Lengler, J. (2009), "Psychic distance, marketing strategy and performance in export ventures of brazilian firms", *Journal of Marketing Management,* Vol. 25 No. 5-6, pp. 591-610.

Sousa, C. M. P., Lengler, J. F. and Martínez-López, F. J. (2014), "Testing for linear and quadratic effects between price adaptation and export performance: The impact of values and perceptions", *Journal of Small Business Management,* Vol. 52 No. 3, pp. 501-520.

Sousa, C. M. P. and Novello, S. (2014), "The influence of distributor support and price adaptation on the export performance of small and medium-sized enterprises", *International Small Business Journal,* Vol. 32 No. 4, pp. 359-385.

Sousa, C. M. P. and Tan, Q. (2015), "Exit from a foreign market: Do poor performance, strategic fit, cultural distance, and international experience matter?", *Journal of International Marketing,* Vol. 23 No. 4, pp. 84-104.

Spyropoulou, S., Katsikeas, C. S., Skarmeas, D. and Morgan, N. A. (2017), "Strategic goal accomplishment in export ventures: The role of capabilities, knowledge, and environment", *Journal of the Academy of Marketing Science, (forthcoming).*

Tan, Q. and Sousa, C. M. P. (2011), "Research on export pricing: Still moving toward maturity", *Journal of International Marketing,* Vol. 19 No. 3, pp. 1-35.

Tang, Y.-C. and Liou, F.-M. (2010), "Does firm performance reveal its own causes? The role of bayesian inference", *Strategic Management Journal,* Vol. 31 No. 1, pp. 39-57.

Tauchen, G., Zhang, H. and Liu, M. (1996), "Volume, volatility, and leverage: A dynamic analysis", *Journal of Econometrics,* Vol. 74 No. 1, pp. 177-208.

Teece, D. J., Pisano, G. and Shuen, A. (1997), "Dynamic capabilities and strategic management", *Strategic Management Journal,* Vol. 18 No. 7, pp. 509-533.

Tellis, G. J. (1986), "Beyond the many faces of price: An integration of pricing strategies", *Journal of Marketing,* Vol. 50 No. 4, pp. 146-160.

Theodosiou, M. and Katsikea, E. (2013), "The export information system: An empirical investigation of its antecedents and performance outcomes", *Journal of International Marketing,* Vol. 21 No. 3, pp. 72-94.

Uotila, J., Maula, M., Keil, T. and Zahra, S. A. (2009), "Exploration, exploitation, and financial performance: Analysis of s&p 500 corporations", *Strategic Management Journal,* Vol. 30 No. 2, pp. 221-231.

Volberda, H. W., van der Weerdt, N., Verwaal, E., Stienstra, M. and Verdu, A. J. (2012), "Contingency fit, institutional fit, and firm performance: A metafit approach to organization–environment relationships", *Organization Science*, Vol. 23 No. 4, pp. 1040-1054.

Wiggins, R. R. and Ruefli, T. W. (2002), "Sustained competitive advantage: Temporal dynamics and the incidence and persistence of superior economic performance", *Organization Science*, Vol. 13 No. 1, pp. 81-105.

Wilden, R. and Gudergan, S. P. (2015), "The impact of dynamic capabilities on operational marketing and technological capabilities: Investigating the role of environmental turbulence", *Journal of the Academy of Marketing Science*, Vol. 43 No. 2, pp. 181-199.

Yi, J., Wang, C. and Kafouros, M. (2012), "The effects of innovative capabilities on exporting: Do institutional forces matter?", *International Business Review*, Vol. 22 No. 2, pp. 392-406.

Zahra, S. A., Sapienza, H. J. and Davidsson, P. (2006), "Entrepreneurship and dynamic capabilities: A review, model and research agenda*", *Journal of Management Studies*, Vol. 43 No. 4, pp. 917-955.

Zhang, J. and He, X. (2014), "Economic nationalism and foreign acquisition completion: The case of china", *International Business Review*, Vol. 23 No. 1, pp. 212-227.

Zollo, M. and Winter, S. G. (2002), "Deliberate learning and the evolution of dynamic capabilities", *Organization Science*, Vol. 13 No. 3, pp. 339-351.

APPENDIX I PUBLISHED PAPER DURING THE PHD

(Chen, J., Sousa, C. M. P. and He, X. (2016), "The determinants of export performance: A review of the literature 2006-2014", *International Marketing Review,* Vol. 33 No. 5, pp. 626-670.)

The Determinants of Export Performance: A Review of the Literature 2006 - 2014

Abstract

Purpose - The purpose of this paper is to synthesize and evaluate recent studies on determinants of export performance.

Design/methodology/approach - Using a vote-counting technique this paper reviews 124 papers published between 2006 and 2014 to assess the determinants of export performance.

Findings - The results indicate that significant progress has been made during these nine years and that: (1) numerous new determinants are identified, (2) data quality and statistical biases have received considerable attention, and (3) interaction and indirect relationships are considered. However, at the same time, the research of export performance is still limited by (1) a lack of synthetic theoretical basis, (2) inconsistent empirical test results, and (3) insufficiency in the research framework and statistical methodologies.

Originality/value - Export performance has received increasing attention over recent decades, but the area is still characterized by fragmentation and diversity hindering

theoretical and practical development. This paper integrates the findings of recent studies on export performance and provides further discussion from both theoretical and methodological aspects, and points out the directions for future research.

Keywords Export performance, Internal factors, External factors, Literature review.

Paper type Literature review

The Determinants of Export Performance: A Review of the Literature 2006 – 2014

Introduction

With the rapid growth of international business, exporting plays a key role in many firms' survival and growth. Exporting activities enhance organizational capabilities, which, in turn, generate additional resources that boost the firms' performance (Filatotchev et al., 2009). Hence, a robust understanding of exporting is much called for by researchers, managers, and policy-makers (Leonidou et al., 2007; Sousa et al., 2010). Over the past 50 years, fruitful progress of export performance research has indicated the consistently increasing magnitude of this area. In this study, *export performance* is defined as the outcome of a firm's activities in the export market (Shoham, 1996; Katsikeas et al., 2000).

Several publications have already reviewed the literature of exporting comprehensively and revealed the achievements and limitations in this field (e.g., Bilkey, 1978; Aaby and Slater, 1989; Zou and Stan, 1998; Sousa et al., 2008). So far, the latest integrative literature review of export performance by Sousa et al. (2008) includes the publications until 2005. From 2006, increasing attention has been paid to the research of antecedents of export performance, as an increasing number of papers related to export performance are published in top-ranking journals. Despite this

increasing interest there has been no recent literature review summarizing these latest developments and pointing out future direction in this field.

Reviewing the recent literature helps to detect the progress of export performance research and identify the conceptual and methodological limitations in previous studies. It improves the applicability of future research, accuracy of empirical analysis, and reliability in drawing practical implications, which in turn facilitate theory development.

Between 2006 and 2014, three major areas of progress are evident in the export performance literature. Firstly, the increasing application of extant theories and multiple theoretical foundations has provided a more comprehensive and insightful view. Secondly, a considerable number of new factors are introduced as the determinants of export performance. And thirdly, advanced statistical methods are used, which allows for the exploration of the sophisticated relationships between antecedents and export performance (e.g., moderating and mediating relationships, three-way intraction, etc.).

Nevertheless, the research of export performance is still under maturity (Sousa et al., 2008), and still characterized by divergence and discordance (Katsikeas et al., 2000; Sousa et al., 2008; Tan and Sousa, 2011). Although a range of theories are considered, each individual theory only provides a fragmented view of export performance. As such, a systematic theoretical basis and framework that could comprehensively explain all of the drivers of export performance remains absent (Lages et al., 2008; Wheeler et al., 2008; Tan and Sousa, 2011). Furthermore, whilst a wide range of determinants are explored, few of these are studied in depth. Indeed, most studies investigate the direct

links between the antecedents and export performance, but ignore the interacted and nested relationship among those causes. Notwithstanding some more advanced methodologies are considered, estimation biases still exist. The ignorance of the hypothesis behind the methodology poses a major threat to the validity and reliability of estimation results. After a thorough review of the literature in the recent nine years, we find three major problems in export performance research, including (1) diversity, indicating an excessive number of antecedents developed in various conceptual models, but few in-depth studies; (2) fragmentation, manifested in the variety of analytical techniques and methodological approaches adopted by different studies; and (3) inconsistency, in that conflicting results are obtained from different studies in terms of the effect of determinants on export performance.

These limitations, constituting serious obstacles to the development of export performance research, indicate the urgency to consolidate the recent literature. Consequently, a review is required to identify the achievements and disclose the crucial theoretical and methodological limitations of recent empirical studies. Our timely literature review synthesizes recent studies in this area and aims to: (1) provide an updated review and synthesize the empirical literature between 2006 and 2014 focused on the antecedents of export performance; (2) summarize the achievements during these nine years, and point out the limitations of current research (including theoretical, methodological and practical aspects); and (3) propose solutions to the current shortcomings and provide directions for future research. Such an endeavour is of particular importance to improve export managers' understanding of the factors leading to export success. In addition to the traditional survey studies, this literature

review also examines the studies using secondary data, which provides researchers with valuable insights and facilitates longitudinal analysis in this area.

We first present the scope and analytical approach of this literature review. We then summarize the descriptive assessments of the reviewed studies, including the theoretical, fieldwork, and sampling characteristics, and the statistical methodologies adopted. We also present the conceptual framework and discuss the antecedents of export performance. Finally, the implications and directions for future studies are discussed.

Scope and Analytical Approach of the Literature Review

This review focuses on empirical literature concerning export performance as a dependent variable that was published between 2006 and 2014. It does not include papers that only explore the measures of export performance. Papers published before 2006 are excluded, as they are considered to have been included in previous review articles (e.g., Bilkey, 1978; Aaby and Slater, 1989; Zou and Stan, 1998; Sousa et al., 2008).

Three major selection criteria apply for inclusion of a relevant article, as follows: (1) it must take export performance as the dependent variable; (2) it must test export performance from a micro-business perspective (firm level or export venture level) rather than a macro-economic view; (3) it must be empirical in nature, applying data analysis and statistical tests. Therefore, theoretical studies and case studies are

excluded. Consistent with previous review works (e.g., Bilkey, 1978; Aaby and Slater, 1989; Zou and Stan, 1998; Sousa et al., 2008), the current study only considers publications in English.

Eligible studies included in this paper are determined by a systematic process that combines computerized and manual bibliographic search method, primarily using leading marketing and international business academic journals (e.g., *Journal of International Business Studies, Journal of Management, Journal of International Marketing, International Marketing Review, International Business Review,* the detailed information of the reviewed journals is shown in Appendix 1*).* In total, 124 articles from 30 journals published in the period 2006-2014 are reviewed. This figure is more than that has been achieved in earlier reviews (43 papers in Bilkey (1978); 55 papers in Aaby and Slater (1989) for 1978-1988; 50 papers in Zou and Stan (1998) for 1987-1997; 52 papers in Sousa et al. (2008) for 1998-2005). The increasing publishing intensity in the field of export performance as witnessed throughout these decades demonstrates the rising importance of the subject, and its continued acknowledgment as an area worthy of academic investigation.

In terms of analytical approach, meta-analysis and vote-counting methods have been widely used in review studies with both methods having merits and shortcomings (Tan and Sousa, 2013; Newbert et al., 2014). While meta-analysis is considered to be statistically superior than vote-counting (Combs et al., 2011), vote-counting is criticized for being too conservative and overlooking the magnitude of effect size (Ostini et al., 2009). However, the interpretability of the results of meta-analysis is dependent on the degree of measurement consensus (Newbert et al., 2014), and given the fact that disparate measures are used by researchers, the results from a meta-

analysis "are difficult or impossible to interpret" (Newbert et al., 2014: 147). Moreover, meta-analysis requires more data (e.g., correlation coefficient or effect size) (Hunter and Schmidt, 2004), which is not always available for many studies. As a result, Newbert *et al.,* (2014) suggest that in these cases vote-counting is a more appropriate tool to reveal important theoretical and empirical distinctions. Hence, considering the above points, this study applies a vote-counting technique to review the literature on export performance. This technique provides a simple but clear picture of the probable influence of a set of variables (Tan and Sousa, 2011). The assumptions underlying the vote-counting technique are that: (1) the effect size is equivalent; (2) the sample size is irrelevant to the test result; and (3) the multivariate and bivariate techniques are consistent (Zou and Stan, 1998).

Description of Studies Reviewed

General descriptive summaries of the 124 reviewed studies are listed in Appendix 2, which provides information of each study in respect of theoretical background, country, industrial sector, firm size, data sources, sample size, response rate, respondents, unit of analysis, measures of export performance, and method of statitstical analysis. Below we present our assessment of the studies along five dimensions: (1) measures of export performance, (2) theoretical basis, (3) fieldwork characteristics (i.e. country of study, industrial sector, firm size) (4) sampling (i.e., sample size and unit of analysis), and (5) statistical methods.

Measures of Export Performance

The results show a low degree of consensus of measuring export performance. Among the 124 reviewed studies, export performance is measured in 53 ways, with 23 different measures used only once or twice. Although several broad taxonomies are developed (e.g., EXPERF scale, see: Zou *et al.*, 1998) , there is still no uniformly implemented conceptualization and operationalization of export performance. The majority of recent literature has only adopted fragmented and uncoordinated measures of export performance. This circumstance impedes the advancement of export performance literature, as it places difficulties in the way of comparing and contrasting the findings within this area (Zou and Stan, 1998; Oliveira et al., 2012).

Among the measures of export performance, economic measures are the most frequently utilized, being seen as export profitability (51), export sales growth (45), export sales (38), and export intensity (36). Non-economic performance measures are less frequently employed, among which, satisfaction with export performance (25), and export goal achievement (15) are used relatively often to assess performance. Noticeably, there are 41 studies among the reviewed papers that employ only a single indicator of export performance. As export performance is a multi-faceted phenomenon, the use of multiple measures is important to capture the different aspects of the export performance construct and enhance the effectiveness of the indicators.

Theoretical Basis

Theoretical development, through the construction of a systematic set of relationships providing a consistent and comprehensive explanation of phenomena, is a primary objective of academic research (Katsikeas, 2003). We notice that more theories are introduced in the export performance literature between 2006 and 2014, but the absence of any synthetic theoretical support is a serious concern in this research area (Dhanaraj and Beamish, 2003; Singh, 2009).

Among the 124 reviewed studies, 15 papers do not provide information about the underlying theories. The remaining 109 papers consider 41 theories (or paradigms), the most widely used being the resource-based view (RBV) (50 studies), contingency theory (13 studies), institutional-based view (IBV) (12 studies), and organizational learning theory (OLT) (11 studies). These four theories are discussed below in more detail.

The RBV considers a firm as a unique parcel of valuable tangible and intangible resources, and these controllable resources and capabilities determine a firm's competitive advantage and performance in export market (Katsikeas et al., 2000; Barney et al., 2001). The underlying assumption of the RBV is that the product markets are stable and constant, as the resources cannot be perfectly imitated and transferred (Barney, 1991; Kraaijenbrink et al., 2010). As an illustration, Cadogan *et al.* (2009) reveal the pivotal role of market orientation capabilities in improving export performance. However, we consider that an exporting firm's competitive advantage is not only determined by its resources, but also influenced by the external market and environmental forces which it faces (Peng et al., 2008).

Among the reviewed studies, 12 applied the IBV. As the IBV was not mentioned in any prior reviews, this appearance indicates the increasing consideration of institutional influence in export marketing. The IBV emphasizes the importance of institutional environment, and suggests that institutional forces shape firms' strategic decisions and determine their performance (Dacin et al., 2002). This is particularly important for exporting firms, as export activities are subject to different institutional forces in the host and export markets (Peng et al., 2008). As an example, LiPuma *et al.* (2013) show the importance of institutions to export performance, since high quality of the institutional environment leads to superior export performance. This line of research offers broader theoretical insight into export performance determinants by considering the effect of institutional forces.

Furthermore, the competitive advantage derived from a firm's resources, and influenced by institutions, is neither fixed nor infallible. It is, instead, conditioned by the co-alignment between internal resources and external forces. Contingency theory highlights the fit between strategic factors including marketing strategies and the overall context. Different from the RBV and IBV, this theory considers that superior export performance is generated by the contingent compatibility, which is changeable and individualized to each firm or export venture (Harrigan, 1983). For instance, Hultman *et al.* (2011) find that the effectiveness of export promotion strategy is contingent on a complex interaction between export experience and external sociocultural distance, where the alignment among strategic decisions, experiences and sociocultural contexts determines export successes. However, contingency analysis only provides descriptive conclusions about individual case of export

performance in specific situations, which limits its generalizability and application (Hultman et al., 2011).

In addition, firms' exporting activities are continuing operations. Organizational learning theory (OLT) specifies the encoding mechanism between previous organizational operations and the organization's future behaviour and outcomes (Santos-Vijande et al., 2012; Wei et al., 2014). In an exporting context, export managers learn from past exporting activities and gain a better understanding of the causality among export strategies, surrounding conditions and corresponding export performance (Fiol and Lyles, 1985; Lages et al., 2008). Hence, such knowledge leverages current strategic decisions, and influences future export performance (Ruigrok and Wagner, 2003; Lages et al., 2008). For instance, Lages *et al.* (2008) indicate that export performance of the previous year plays a significant role in shaping the following year's export marketing strategy and export performance through the learning process. It provides a longitudinal view that explains the inter-temporal effect on export performance over time.

Apart from these four theories discussed above, other theories are considered as well, e.g., behavioural theory (five studies), relationship marketing theory (five studies), transaction cost theory (five studies), etc. (see Appendix 2 for a full list of theories). What emerges from this discussion is that no single theory seems to be adequate enough to fully address the complexity of export marketing. And in order to provide a more comprehensive view, researchers tend to integrate theories to support their analysis and arguments. A total of 39 out of the 124 reviewed papers did, in fact, combine two (or three) theories as their research basis.

Fieldwork Characteristics

Country of Study. Developed countries received more research interest than developing countries. Yet, compared with the previous literature, increasing attention was paid to emerging markets, with 44 out of the 124 reviewed studies being focused on the developing economies. However, among the developing countries, only five studies consider African countries (i.e., Ghana, Nigeria and Zimbabwe) (e.g., Matanda and Freeman, 2009; Boso et al., 2013). China receives particular emphasis (19 studies), because it has become one of the largest economies and the biggest exporter in the world (He et al., 2013). Since exporting serves as the primary foreign entry mode for firms in emerging countries (Singh, 2009), more studies are expected to concentrate on these economies.

A valuable progress was that 16 studies collected data from multiple countries. Such cross-national research is able to control for the contextual factors of two or more countries, which helps in increasing the generalizability of the research findings, and in reducing the limitations produced by single-country samples (Filatotchev et al., 2009; Boehe and Cruz, 2010).

Industry Type. The majority of reviewed studies considered multiple industries, which allows a researcher to control for the industry-specifc influences and generalize the research results (Sousa, 2004). Consistent with previous reviews, the manufacturing industries were the main focus. Noticeably, other industrial sectors (e.g., service sector) have started to be included (e.g., Sichtmann et al., 2011; Durmuşoğlu et al., 2012). Their exlusion in previous research was considered to represent a large research void in literature (Sousa et al., 2008). However, more studies of non-

manufacturing industries are still needed to generalize the industrial influence and provide more comprehensive insight. Especially, the inclusion of the service sector, which is of increasing importance in international arena, could provide answers to the problems posed by the intangibility characteristics of services.

Firm Size. Among the reviewed studies, 42 studies did not provide detailed information about the size of the firm being investigated, so we infer that they used the full range of firm sizes (small, medium and large firms). However, SMEs (50 studies) increasingly join the global markets in pursuit of opportunities, and play a potentially essential role in providing employment and strengthening future prospects in many countries (Knight, 2000; Nazar and Saleem, 2011). Generally, small firms are likely to have fewer resources, meaning that the use of the RBV does not help in explaining their exporting motivation and internationalizing mechanism (Filatotchev et al., 2009). Considering that exporting is a particularly appropriate entry mode for SMEs, more attention should be devoted to the issue of how such enterprises improve export performance.

Sampling

Sample Size. Among the reviewed studies, 100 papers collected primary data, and 24 studies used the secondary data that are collected by national statistic department or the third institutions. For studies using primary data, the sample size ranged from 52 to 3,141 with an average of 277, and the average response rate is 34.3%. For studies using secondary data, sample size ranged from 141 to 359,874 with an average of 33,975. As expected, the sample size of those studies using second-hand data is

significantly larger than those using primary data. In terms of the survey data, the sample size in respect of the most recent nine years is larger than that of previous studies. On average, the increasing sample size improves validity and generalizability, and allows for more sophisticated statistical analysis (Sousa et al., 2008).

Unit of Analysis. Cavusgil and Zou (1994) maintain that the proper unit of analysis in export performance research should be the export venture. Venture-level studies acknowledge more concrete and specific antecedents in exporting assessment (Cavusgil and Zou, 1994; Sousa et al., 2008). Between 2006 and 2014, 54 out of the 124 studies focused on the export venture level in their analysis. Compared with former literature reviews, more venture-level research is seen between the period 2006-2014.

However, two concerns are raised about venture-level studies (Oliveira et al., 2012). First, the use of the export venture may fail to capture latent firm-level variables. Second, venture-level measurements of export performance are inappropriate in some instances. Studies that measure export venture performance by using export function instruments may present invalid managerial implications (Oliveira et al., 2012). The choice of the unit of analysis should depend on the research questions, and venture-level analysis does not work for all.

Statistical Methods

Consistent with a prior review (Sousa et al., 2008), the majority of studies employed multivariate data analysis, such as structural equation modelling (SEM), the partial

least square path model (PLS-PM), factor analysis (FA), and multi-regression analysis. Particularly, a considerable number of studies (63 papers) used structural equation modelling technique (including SEM and PLS-PM) for hypothesis testing.

All the classic multivariate techniques (e.g. multivariate regression, factor analysis, multivariate analysis of variance, discriminant analysis) share the common limitation that they can only examine one relationship at a time (Hair et al., 2009). As an extension, SEM and PLS-PM offer an integrated framework, which is able to estimate a synthetic set of relationships and comprise specific measurement properties of latent variables simultaneously with the consideration of all possible information (Tenenhaus et al., 2005; Hair et al., 2009).

In addition, both OLS regression and ANOVA see limitation in their assumptions of normality and homoscedasticity (Glass et al., 1972; Judd et al., 1995). Real data, in fact, are normally skewed and kurtic (Judd et al., 1995), which lead to a great concern regarding Type-I and Type-II error rates, thus creating increasing uncertainty about the estimation, and also decreasing statistical power. More attention to the methodological assumptions and the appearance of sample data appearance is thus recommended. Additionally, more robust estimators (e.g. maximum likelihood estimator, M-estimator, bayesian estimator, etc.) should be considered.

Conceptual Framework

Based on our review, we propose the following conceptual framework (see Figure 1).

[Figure 1]

Export marketing strategy functions as an important intermediate variable. It is shaped according to a firm's internal resources and external forces, and directly affects competitive advantage, which determines export performance. The empirical results support the key and direct effect of export marketing strategy on export performance.

Previous reviews of papers have revealed that studies tend to focus on the direct influence of antecedents on export performance, and to ignore the intermediate and interactive influence of them. As an improvement, this review takes a further step to suggest considering more mediation and moderation effects, thereby improving the basic theoretical conceptual framework and providing a more comprehensive view. Furthermore, we summarize the positions of each antecedent in the path model and count the frequency of use for each factor (see Appendix 3). It illustrates the role of these antecedents to export performance and reflects the degree of popularity of each factor in the export performance literature. In this section, we explain the antecedents of export performance, and discuss the mediating, and moderating variables respectively.

Antecedents of Export Performance

A large number of antecedents are found to have significant influence on export performance. In order to fit the proposed framework, we make an effort to classify the constructs based on their underlying measurements. Sousa et al. (2008) identify two distinct aspects of determinants, i.e., internal variables and external variables.

Following the classification of the determinants, we sort all the antecedent factors based on their definitions and measurements. Specifically, internal variables consist of firm-level factors which refer to the export marketing strategy, firm characteristics/capabilities and management characteristics. External factors, on the other hand, are sorted into industry-level characteristics and country-level characteristics. The key reason for this reclassification is the different focuses of the underlying theories (e.g., RBV and IBV).

Firm-level Factors.

Among the reviewed papers, firm-level variables are the most studied antecedents to export performance. We categorize the firm-level factors into four subgroups: export marketing strategies, firm characteristics, firm capabilities, and management characteristics.

Export Marketing Strategy. The export marketing strategy-performance relationship has been widely studied. Strategic marketing decisions are driven by a firm's internal resources and capabilities, its managers' characteristics, and the external environment (Katsikeas et al., 2006). Whether to standardize or adapt the export marketing strategies is most discussed. However, inconsistent findings emerge in respect of this issue. Katsikeas et al. (2006) indicate that export success is determined by the contingency between export strategies and the marketing environment context, and hence, there can be no generalized optimal strategy. Beside the strategy itself, strategic implementation effectiveness and strategic fit are also key determinants of export performance, but are neglected by many studies (Katsikeas et

al., 2006; Morgan et al., 2012). In addition, we notice that a new stream of export performance research introduces environmentally-oriented strategic behaviour, revealing that the implementation of sustainable marketing strategies in the export market with stringent environmental regulations stimulates export performance (Antonietti and Marzucchi, 2014; Zeriti et al., 2014). Future research should recognize that superior export performance is not only driven by the marketing strategies, but also determined by the strategic fit and the effectiveness of strategic implementation (Dow, 2006; Ramaseshan et al., 2013).

Firm Characteristics. The firm's basic characteristics are widely considered. Specifically, export size and firm export experience are the most commonly studied variables, and empirical evidence widely supports the positive impact of these two variables on export performance. In addition to examining the direct relationship between firm characteristics and export performance, recent studies have begun to consider that the relationship between export marketing strategy and export performance is conditional on these idiosyncratic resources (e.g., Bertrand, 2011; LiPuma et al., 2013). Bertrand (2011) reveals that export experience augments the positive effect of outsourcing on export performance. In a global market, export marketing strategic decisions are intertwined with firm characteristics to respond to export performance (LiPuma et al., 2013). Future research on the interaction role of firm characteristics could have valuable implications for policy-makers, and furnish export managers with a better understanding of export success.

Firm Capabilities. Firm capabilities have been a central theme of international business research, which are recognized as one of the pivotal elements in driving sustainable competitive advantage and shaping export performance (Barney et al.,

2001; Lages et al., 2009). With respect to firm capabilities, export market orientation, as an emerging key determinant of export performance identified by Sousa *et al.* (2008), has received increasing interest between 2006 and 2014. For instance, Cadogan *et al.* (2009) investigate the quadratic relationship between export marketing orientation and performance, which indicates that the market orientation does not always has a positive impact on export performance. Additionally, other novel strategic orientations are studied (e.g., technology orientation), and found to significantly influence a firm's international behaviour and its corresponding export performance (Hortinha et al., 2011). Thus, as firm capabilities are a main source of the firm's performance advantage and central to the firm's continued survival (see Knight and Cavusgil, 2004; Yalcinkaya et al., 2007), future studies are encouraged to pay adequate attention to these factors

Management Characteristics. Management factors are also crucial to business success. Export managers make decisions and strategies to enhance and expand the overseas market, which will inevitably influence the firm's export performance (Katsikeas et al., 2000). Particularly, managers' international experience, which is a key determinant of export performance, is widely explored. However, some studies indicate the insignificant influence of managers' experience on export performance (Lages et al., 2008). Clearly, the inconsistent findings in respect of management factors highlight the need for further in-depth studies of managerial influences. Such studies enable a better understanding of the key role of managers, including their perceptions and behaviors, in improving export performance, and would provide normative implications for export firms.

Industry-level Characteristics.

Industrial factors are rarely studied in the period 2006-2014, the exception being industrial characteristics, industry adaptation, industry concentration and technological related variables. Technological developments will improve commitment within the whole industry and, may eventually lead to increase export performance of individual firms. Future research should consider the domestic industrial developments, as these may also be related to improvements in firms' international image and commitment.

Country-level Characteristics.

Differences between the domestic market and foreign market pose inevitable uncertainties and opportunities for firms engaged in exporting activities (Sousa and Novello, 2014). According to the IBV, institutional factors play an important role in strategic decisions, and these strategies in turn have further influence on export performance (Peng et al., 2008). We discuss country-level characteristics separately from domestic-market factors and foreign-market factors.

We identify six domestic factors, including domestic demand, export assistance, local market characteristics, infrastructure quality, legal quality and institutional environment, all of which are found to impact export performance.

Among foreign market factors, competitive intensity attracts the most interest with mixed empirical results. For instance, Katsikeas et al. (2006) reveal a positive relationship between competitive intensity and marketing strategy standardization,

whereas in contrast, Sousa and Novello (2014) detect an insignificant association between competitive intensity and price adaptation. Compared with the earlier focus on the market distance and similarity, studies between 2006 and 2014 showed more evidence of attention being paid to psychic distance. In this connection, empirical studies illustrated psychic distance to be positively associated with marketing mix strategy adaptation but not significantly linked to export performance (Sousa and Lengler, 2009; Sousa et al., 2010). Researchers are thus encouraged to continue their exploration of more environmental factors (e.g., institutions). The majority of current studies concentrate on the influence of firm-level resources, but neglect the significance of country-level characteristics. Future studies on the external environment would shed new light on the driving determinants of export performance from contextual aspects, thereby illuminating that both firm resources and environmental factors are influential in this respect.

Mediating Variables

Mediators intervene between predictors and consequence. Mediating effects could explain the indirect relationship between determinants and export performance, highlighting how and why such links exist (Baron and Kenny, 1986). Export marketing strategy functions as an important internal mediator that bridges the relationship between internal and external factors and export performance. The strategic exporting decisions are made based on the firm's resources, management characteristics, and external forces, and directly influence the export performance.

Although a considerable number of studies use marketing strategies as mediators in their conceptual models, they do not directly acknowledge or test mediating effects in their studies (e.g., Matanda and Freeman, 2009). This omission leads to incomplete theorization and empirical bias in the results of the hypotheses testing. For instance, Sousa and Novello (2014) indicate that environmental difference has a positive influence on price adaptation, and price adaptation in turn has an inverted quadratic effect on export performance. In this case, directly estimating the link between environmental difference and export performance hides the intermediate effect of price adaptation strategy, and may lead to biased results.

Based on the above arguments, we suggest that further studies consider the mediating effect of factors such as export marketing strategies in an effort to improve research accuracy and reliability, and to explore the internal mechanisms associated with the empirical links.

Moderating Variables

Moderating variables were largely ignored in the literature before 1998 (Sousa et al. 2008), yet by considering these, it is possible to place them into more developed conceptual models to establish mechanisms considering conditions for maximal effectiveness of certain determinants for superior export performance (Baron and Kenny, 1986). In fact, Sousa et al. (2008) find that between 1998 and 2005, only three variables that were studied as moderators (i.e., firm size, international experience and environment turbulence). Among the reviewed papers in this study, 49 variables are studied about the moderating effects upon the link between the predictors and export

performance. Paticularlly, recent studies (e.g., Boso et al., 2013; Magnusson et al., 2013) start to develop hypotheses only focusing on the moderating effect. The growing inclusion of interaction effects reflects the more comprehensive and authentic view of the nested relationship between antecedents, and provide a further in-depth analysis related to export performance.

Moderators represent the appropriate conditions that validate/invalidate the investigated relationships (Yeoh and Jeong, 1995). The identification of moderating variables offers a feasible explanation for the inconsistent empirical results. For example, a significant relationship in one context may be insignificant in another as a result of the moderation effect of contextual differences.

In future research, more effort should be made to identify additional moderating factors, for example institutional contexts. Such effort would improve our understanding of the relationships between the antecedents and export performance, and enrich the extant marketing theories.

Discussion and Implications

Compared with studies examined in earlier reviews (Bilkey, 1978; Aaby and Slater, 1989; Zou and Stan, 1998; Sousa et al., 2008), those featuring in the more recent export performance literature show that important progress has been made in the last nine years. The research on export performance has achieved some progress in recent decades. However, empirical studies still reveal divergence, their findings being

fragmented and conflicting. This may arise from the absence of a synthetic theoretical basis, and from inconsistency in research methodologies. More efforts are needed if the export performance literature is to reach maturity in the future. Possible future directions are discussed below (summarized in Appendix 4).

Theoretical Issues

A meaningful and sufficient theory is important and desirable to provide a better understanding of export success (Katsikeas, 2003). However, such a composite theory that can comprehensively explain the co-ordination and magnitude of all antecedents in international business is not yet available (Singh, 2009).

Although widely adopted in the literature, the RBV is still subject to some important limitations. Specifically, it is restricted in its ability to explain variance in the export performance of firms that share similar resources endowments (Kraaijenbrink et al., 2010). In addition, due to the underlying assumptions of the RBV (i.e., inimitability and stability of resources), the theory is considered to be static in nature, and this causes two problems. Firstly, the RBV cannot adequately explain how and why some firms have sustained competitive advantage in changeable and volatile markets (Peng et al., 2008; Villar et al., 2014). Secondly, the RBV cannot explain the mechanism of the non-resource-produced transformation that a prior resource outcome later changed into sustained competitive advantage (Kraaijenbrink et al., 2010).

To address these limitations, emerging theories or new perspectives in international business should be considered as potential means of progressing beyond current

theoretical discourse, and contributing to theoretical development. For instance, dynamic capability theory extends the RBV in addressing the first shortcoming of the RBV that is its static nature (Eisenhardt and Martin, 2000). Dynamic capability theory argues that sustained competitive advantage depends on being able to provide more prompt, accurate and proper strategic reactions to the market than competitors (Helfat and Peteraf, 2003). It builds up a new resource configuration and explains competitive advantage in high-velocity markets (Eisenhardt and Martin, 2000). Future research based on this view may, therefore, offer an insightful view of export success in unpredictable environments.

Moreover, relevant theories from other research areas, e.g., economics, are also worthy of consideration to advance the study of export performance. For example, Antràs (2003) proposes a model that determines the pattern of intra-firm international trade and boundaries of multinational firms. The international dimension of intra-firm transactions accounts for a considerable proportion of world trade but is largely ignored by international business studies (Antràs, 2003; Bertrand, 2011). The extension and application of Antràs's model to export performance research could provide a novel view on the firm's export decision. Additionally, Melitz (2003) develops a dynamic industry model incorporating firm heterogeneity, and explaining the effects of trade on firm export performance. The model illustrates how the exposure to international trade leads to exporting successes and failures. Particularly, it provides an explanation of the mechanism behind international exit behaviour, which is paramount to future export success but is little understood in the international business area (Sousa and Tan, 2015).

In addition, a few novel studies on export performance consider the past export performance as an antecedent of strategic change and managerial behaviour (e.g., Lages et al., 2008). This kind of strategic adaptation in response to the past performance is difficult for the RBV to predict (Tsinopoulos et al., 2014). As a potential solution, OLT provides a theoretical basis for longitudinal studies in export performance. Longitudinal analysis is urgently needed for the future research since it explores the hysteresis influence of antecedents on export performance. OLT lays the theoretical foundation that illustrates how export firms shape long-term competitive advantages, and experience radical changes in export performance over time.

Furthermore, the integration of multiple theories provides a valuable synthesis of the views expressed in individual theories, and makes for the formulation of more plausible hypotheses. Our review indicates that the RBV and IBV are integrated in various studies. Such efforts to combine the RBV and IBV can provide a dyadic perspective of to the determinants of export performance from the aspect of both firm-level resources and country-level institutions, which is particularly insightful in emerging economies. In terms of individual theory, the RBV alone cannot properly explain the internationalizing mechanism of small firms in emerging economies, as small firms from such economies are likely to have limited resources (Filatotchev et al., 2009; Yi et al., 2012). Emerging economies always have more salient institutions as the scope and the pace of institutional transitions are unprecedented, which post more challenges to export firms, and firms in emerging economies tend to be small (Pla-Barber and Alegre, 2007; Singh, 2009). The IBV highlights the influence of institutional forces (Peng et al., 2008). However, previous studies treat formal and informal institutions merely as ‘background’, which is taken for granted, and

insufficient in itself to explain the strategic behaviour of firms and their export performance (Peng et al., 2008). The IBV indicates that the domestic and foreign institutions shape the export strategies and performance as firms should comply with institutional requirements in and out of the home country (Peng et al., 2008). Given the abilities and limitations of both views, it can be seen that by integrating IBV and RBV, the complex and changeable relationships between organizations and institutions can be captured, and a better explanation of the export performance of small firms in emerging markets can be obtained (LiPuma et al., 2013).

Similarly, a combination of the RBV and contingency theory can improve the unilaterality of the RBV, shifting the focus from firm resources/capabilities to the contingency between those resources/capabilities and the environment. Contingency theory offers a heuristic view that emphasizes the fit between internal resources/capabilities and environmental forces, which indicates that successful export performance is conditional upon the co-alignment of organizational and external influences (Hultman et al., 2011). The same set of export marketing strategies may not be universal for all environmental contexts (Robertson and Chetty, 2000). Superior strategy and performance is not only dependent on objective resources and conditions, but also on the fit between them. Integrating the RBV and contingency theory provides the answers to several questions associated with export activity, such as "what contextual factors strengthen/weaken the strategic effect on export performance, and how?" In addition, the RBV alone is insufficient to explain the poor export performance or even export failure of some export firms with abundant resources. Hence, this theoretical combination can provide researchers with new angles to address previously challenging issues.

It is also important to acknowledge that the adoption of contingency theory strongly suggests the inclusion of moderating factors. Some reviewed studies use contingency theory to develop their conceptual frameworks, without considering moderating effects (e.g., Navarro et al., 2010). The moderation variables specify the contingent context that statistically represent the arguments of contingency theory. To prove the contingency hypothesis, researchers must demonstrate that the internal and external antecedents interact to affect export performance (Hartmann and Moers, 1999). The conceptual model without moderation effects is insufficient to explain the contingent relationships. In future research involving the application of contingency theory, researchers should develop moderating hypotheses and test moderating variables, since the external forces may moderate the links between firm resources and export performance, and the firm capabilities may also influence relationships between the institutions and export performance.

However, despite the encouragement to combine theories, each one has a different focus and the results derived by integrating theories may be inconsistent or even conflicting, especially in respect of theories with incompatible objects (Conner, 1991). Extra attention should, therefore, be paid when researchers intend to integrate two or more theories into one conceptual framework. In this respect, researchers must thoroughly understand the considerations of the relevant theories before developing their conceptual frameworks.

Methodological Issues

Fieldwork. More attention should be paid to those less considered countries, particularly, to the fast-growing developing countries (e.g., South Africa, Brazil), which play increasingly important roles in global economy (Tan and Sousa, 2011). As the institutions of emerging economies significantly differ from those in developed countries, a focus on these countries provides a better understanding to researchers and export managers of the key determinants of export performance in emerging economies.

In addition, multi-national approaches should be undertaken in future research studies. This would allow for comparative results to be obtained in which the similarities and differences in terms of the determinants of export performance in different cultural contexts could be identified (Calantone et al., 2006). Additionally, the multi-national study can assess the generalizability of the theory and improve the validity of the model (Sousa et al., 2008). Indeed, such studies generate particularly valuable information when national differences directly lead to different export performance (Dhanaraj and Beamish, 2003).

With respect to industry type, more studies of non-manufacturing industries are still needed to fill the research voids and generalize the industrial influences on export performance. In particular, service exports have shown rapid growth in recent decades, but still received little attention in export performance research. The emphasis on the service industry is crucial as the nature of sevices and manufactured goods is different (Sichtmann and Selasinsky, 2010). The nature of commercial services is intangible; the inseparability of production and consumption of service requires direct reciprocity between service employee and customers, which highlights the importance of the relationship dimension in the export performance of service firms (Sichtmann and

Selasinsky, 2010; Droge et al., 2012). Consequently, a focus on the service sector may help to advance our theoretical understanding of the crucial role of intangibility in explaining export performance. As the nature of goods and services is not the same, services face a unique set of challenges when entering foreign markets. It is plausible that export performance in a service setting is likely to be driven by some service-specific factors which need to be acknowledged in the theory development.

Data Sources. Data quality is crucial to the accuracy of research findings. The primary data are collected based on the conceptual model. It obtains more flexible, unique and detailed data, which may be not available from secondary sources (Morgan and Sonquist, 1963). Moreover, survey data are considered particularly appropriate to identify and measure managerial perceptions (Hult et al., 2008).

However, survey data are likely to raise questions of validity and reliability. As respondents hold various opinions, survey results may appear to have cognitive problems, social desirability, and attitudinal problems (Bertrand and Mullainathan, 2001). In addition, the attempt to use subjective data may generate invalid and unreliable results, because of the possibility of measurement errors (e.g., non-response bias and common method bias).

Common method variance (CMV) is a great threat to survey data since it limits the validity of research findings about the links between variables (Lindell and Whitney, 2001). CMV can be controlled in two main ways, these being in the design of research procedures (*ex-ante*), and in the statistical methods (*ex-post*) adopted (Podsakoff et al., 2003). At the *ex-ante* stage, collecting the information from different souces is recommended to reduce the threat of CMV, as CMV is more likely to happen when

collecting the dependent and independent variables from the same respondent (Podsakoff et al., 2003; Chang et al., 2010). At the *ex-post* stage, the most widely used statistical test, Harman's single-factor test, is not recommended due to its unwarranty assumptions (Podsakoff et al., 2003). As improvements, some potential statistical remedies are listed, such as partial correlation techniques (including marker-variable analysis), single-method-scale-score approach, single-method-factor approach and multiple-method-factor approach, of which the later is the strongest statistical method (Lindell and Whitney, 2001; Podsakoff et al., 2003). Nevertheless, all of these methods have advantages and disadvantages. To control for CMV, researchers should tailor the methods they adopt to match the specific research setting (Podsakoff et al., 2003).

Estimating non-response bias is an important element in determining whether a sample can be attributed as representative of the population (Armstrong and Overton, 1977), since research findings cannot be generalized to the total population, if the people who respond to a survey are significantly different to those who do not (Armstrong and Overton, 1977). It is noticeable that non-response bias has been largely acknowledged in studies with survey data. The majority of test results suggest the non-significant influence of non-responses. However, when securing longitudinal data through repeated questionnaire surveys of the same group of respondents, the non-response bias should be particularly noticed. As poorly-performing firms are more likely to withdraw from exporting activities, it is likely that a significant potential non-response bias might occur from one survey to another, and the respondents who remain will tend to be firms that perform well.

The issues regarding secondary data concern unit and adaptability. It is rather difficult to obtain secondary data at the venture level, and certain data may be out-

dated (Katsikeas et al., 2000). In addition, secondary data are fixed and may not be suitable for a specific conceptual model. Nonetheless, secondary data are often objective and come from large sample sizes with time axes, all of which are advantages that make them more suitable for time-series or panel-data analysis (Katsikeas et al., 2000).

Statistical Methods. As exporting is a cross-country activity, the determinants of export performance are correlated, interacted and hysteretic. To provide a better understanding, researchers are encouraged to consider more advanced statistical analysis such as moderated mediation, mediated moderation, and higher level interaction (three-way interaction). Further recommendations on statistical methodologies are given from both the polynomial dimensions and the analysing time scale.

The majority studies reviewed in this paper only considered the linear relationship by using simple linear regression. However, the extensive uncertainties in exporting activities suggest that the relationship between the interested construct and the response variable may not be only limited to a linear one. Five studies made efforts to explore the non-linear relationship between the antecedents and export performance by using polynomial regression, and revealed the quadratic effects of informational capabilities, price adaptation, and customer orientation on export performance.

The verification of a higher-order relationship could explain why inconsistent findings emerged from the literature with respect to the effect of determinants on export performance. However, little has been done to examine the higher-order relationship between the constructs. Future research should consider how to estimate

the non-linear relationship in a robust way, so that not only quadratic but also higher-order connections between exporting antecedents and export performance can be identified. In turn, such identification could interpret the elasticity and evaluate the tendency of the effect in a more accurate way.

The dominant studies used static modelling, which explains the relationship between variables and the effects of factors at the same time point. Nonetheless, it is much recommended that longitudinal models be used in export performance research in order to capture the dynamic and hysteretic relationships between determinants and export performance from a longitudinal viewpoint (Filatotchev et al., 2009; Sousa et al., 2010; He et al., 2013).

A noticeable feature is the inclusion of time-lag variable which is starting to be considered in the literature. For instance, Lages et al. (2008) find that the preceding year's export performance santisfaction has a positive effect on the current year's export performance. However, while introducing previous performance as an explanatory variable, the classic statistical method (e.g., OLS regression) may be threathened by the endogeneity problem (Flannery and Hankins, 2013). As a direction for future resesarch, advanced economic panel models are suggested since these provide robust estimation results and advance the methodogical development in respect of export performance. For example, the dynamic panel model with generalized moment of method is considered a remedy for the endogeneity problem (Flannery and Hankins, 2013). The combined propensity score matching and difference-in-difference model addresses the self-selection issue, and evaluates the causal effect of antecedents on export performance (De Loecker, 2007; Fabling and Sanderson, 2013). Above all, longitudinal thinking is essential for export performance

research that explores the influence of the antecedents through time. The higher-order time lags model is suggested for future research to accommodate the contingency that earlier influences on performance may have waned, or at least not be consistent in their power to impact upon it.

Managerial Implications

This paper highlights important implications for practising managers. The conceptual framework developed in this study shows that export marketing strategies function as important instruments which transform firms' resources and capabilities into export performance. When venturing abroad, export managers must carefully consider whether to adapt or standardize their marketing strategies (Katsikeas et al., 2006). Product adaptation strategy is widely recommended to export managers since the effective adaptation of their products' brand names and packaging is known to improve export performance (Brouthers et al., 2013). At the same time, export managers also need to pay particular attention to the price adaptation and export- oriented strategy, which may only influence export performance to a certain degree. Some studies suggest that adapting price or investing in export market-oriented behaviour is likely to bring about a negative outcome (Cadogan et al., 2009; Sousa and Novello, 2014), since the exporting strategy leads to superior export performance only to the extent that there is successful co-alignment between the strategy implemented and external contextual factors (Katsikeas et al., 2006). The differences between home country and exporting country in terms of the institutional environment, culture, and customer characteristics drive the deployment of strategic adaptation (Katsikeas et al., 2006;

Sousa and Lengler, 2009; Brouthers et al., 2013). Meanwhile, the degree of these differences determines the degree of marketing strategy adaptation. Hence, in light of this study, whether and how to adapt the exporting strategies is an important issue to export managers, which is worth considering in future research.

Furthermore, export managers should take both the firm's internal characteristics and its external environment into consideration since these jointly determine export performance. In respect of the internal characteristics, it is found that the presence of an experienced managerial team consistently exerts a positive influence on export performance; consequently, export managers are encouraged to gain export experience and build up their export commitment (Sousa and Bradley, 2008). Furthermore, firm size is also an important contributing variable to effective export performance. Firms can achieve good performance in international markets as long as they implement exporting strategies consistent with their resources (Pla-Barber and Alegre, 2007). Export managers in small firms are recommended to concentrate on fewer markets to improve export performance (Brouthers et al., 2009), while those in large firms are encouraged to expand the number of different export markets in their portfolio (Diamantopoulos et al., 2014).

As far as the external environment is concerned, several factors moderate the relationships between firm-level resources and export performance. Specifically, export managers in technology-intensive industries are recommended to focus more on developing innovation capability, which will improve their ability to compete in international markets (Pla-Barber and Alegre, 2007; Filatotchev et al., 2009). They should also think comprehensively, not only considering their internal capability, but also taking account of the institutional environment, cultural diversity, psychic

distance, and export market dynamism (Sousa and Lengler, 2009; Cadogan et al., 2012; Bradley et al., 2013).

Policy Implications

This paper also offers valuable insights for policy-makers who are keen to enhance the cohort of exporting successes and improve the economic prosperity. To the policy-makers, exporting could be viewed as a way of accumulating foreign exchange reserves, enhancing the employment percentage, improving productivity, and consequently leading to societal prosperity (Katsikeas et al., 2000; Sousa et al., 2008). Other than firm internal idiosyncratic resources/capabilities and management characteristics, our findings highlight the importance of the external institutional environment. Generally, firm export performance benefits from the presence of high-quality institutions (Li et al., 2013; LiPuma et al., 2013). Thus, improving the overall institutional quality should be an aim of public policy-makers when considering policy reform and investment environment. This is particularly important to emerging economies, as institutions in developing countries tend to be far less robust than those in developed countries (LiPuma et al., 2013).

Furthermore, recent empirical studies emphasize the need for co-alignment of export firms' internal characteristics and the external institutional environment, since such alignment influences the effectiveness of export marketing strategies, and thereby determines the export performance (Katsikeas et al., 2006). These findings indicate that the influence of government intervention varies among export firms according to their different characteristics, like firm size, ownership (e.g., Lu et al., 2009; LiPuma

et al., 2013). Therefore, the envisaged intervention is suggested to be customized in terms of targeting firm characteristics. For instance, the government support to smaller sized export firms could enable them to overcome the resource gap that may limit their exporting expansion and successes. Such a customized approach seems more sensible for policy-makers wishing to facilitate export performance (Wheeler et al., 2008).

To sum up, to enhance the efficacy of exporting support programmes and stimulate export performance, policy-makers should commit themselves to improving the general institutional quality, and tailor the government provisions in terms of firm heterogeneity.

Conclusion

This paper has assembled 124 reports of studies related to export performance published between 2006 and 2014, and offered a synthesis of the literature involved. It is clear that much effort has been made during this period in identifying the determinants of export performance, and that increasing consideration has been given to searching for an appropriate theoretical basis to interpret the findings. Indeed, multiple theoretical bases are found to have been applied. In addition, new antecedents of export performance are identified. Particularly, an increasing number of studies were seen to take the interaction and indirect relationships into consideration, since these are known to foster more contingent and pragmatic structural relationships.

Furthermore, researchers have paid more attention to the quality of the data in their studies (e.g., CMV).

However, despite these advances, current research efforts and outcomes remain fragmented, diverse, and inconsistent. And, although a considerable number of antecedents are investigated, a comprehensive framework that would induce an inclusive and general conceptual structure has yet to be generated. The structured models used in the reviewed studies tend to be static, and the absence of longitudinal studies limits the contributions of the empirical findings as well as the practical implications. A dynamic theoretical model and advanced statistical methods are needed to explore the antecedents of export performance in a changing market over time. An increasing focus on the provision of these tools would improve the aforementioned methodological, theoretical, and conceptual shortcomings.

References

Aaby, N.-E. and Slater, S. F. (1989), "Management influences on export performance: A review of the empirical literature 1978-1988", *International Marketing Review,* Vol. 6 No. 4, pp. 7-26.

Agnihotri, A. and Bhattacharya, S. (2015), "Determinants of export intensity in emerging markets: An upper echelon perspective", *Journal of World Business,* Vol. 50 No. 4, pp. 687-695.

Ahamed, A. J. and Skallerud, K. (2013), "Effect of distance and communication climate on export performance: The mediating role of relationship quality", *Journal of Global Marketing,* Vol. 26 No. 5, pp. 284-300.

Antonietti, R. and Marzucchi, A. (2014), "Green tangible investment strategies and export performance: A firm-level investigation", *Ecological Economics,* Vol. 108 No. 1, pp. 150-161.

Antràs, P. (2003), "Firms, contracts, and trade structure", *Quarterly Journal of Economics,* Vol. 118 No. 4, pp. 1375-1418.

Anwar, S. and Nguyen, L. P. (2011), "Foreign direct investment and export spillovers: Evidence from Vietnam", *International Business Review,* Vol. 20 No. 2, pp. 177-193.

Armario, J. M., Ruiz, D. M. and Armario, E. M. (2008), "Market orientation and internationalization in small and medium-sized enterprises", *Journal of Small Business Management,* Vol. 46 No. 4, pp. 485-511.

Armstrong, J. S. and Overton, T. S. (1977), "Estimating nonresponse bias in mail surveys", *Journal of Marketing Research,* Vol. 14 No. 3, pp. 396-402.

Balabanis, G. and Spyropoulou, S. (2007), "Matching modes of export strategy development to different environmental conditions", *British Journal of Management,* Vol. 18 No. 1, pp. 45-62.

Barney, J. (1991), "Firm resources and sustained competitive advantage", *Journal of Management,* Vol. 17 No. 1, pp. 99-120.

Barney, J., Wright, M. and Ketchen, D. J. (2001), "The resource-based view of the firm: Ten years after 1991", *Journal of Management,* Vol. 27 No. 6, pp. 625-641.

Baron, R. M. and Kenny, D. A. (1986), "The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations", *Journal of Personality and Social Psychology,* Vol. 51 No. 6, pp. 1173-1182.

Beise-Zee, R. and Rammer, C. (2006), "Local user-producer interaction in innovation and export performance of firms", *Small Business Economics,* Vol. 27 No. 2-3, pp. 207-222.

Beleska-Spasova, E. and Glaister, K. W. (2010), "Geographic orientation and performance: Evidence from british exporters", *Management International Review,* Vol. 50 No. 5, pp. 533-557.

Beleska-Spasova, E., Glaister, K. W. and Stride, C. (2012), "Resource determinants of strategy and performance: The case of British exporters", *Journal of World Business,* Vol. 47 No. 4, pp. 635-647.

Bertrand, M. and Mullainathan, S. (2001), "Do people mean what they say? Implications for subjective survey data", *American Economic Review,* Vol. 91 No. 2, pp. 67-72.

Bertrand, O. (2011), "What goes around, comes around: Effects of offshore outsourcing on the export performance of firms", *Journal of International Business Studies,* Vol. 42 No. 2, pp. 334-344.

Bilkey, W. J. (1978), "An attempted integration of the literature on the export behavior of firms", *Journal of International Business Studies,* Vol. 9 No. 1, pp. 33-46.

Bloemer, J., Pluymaekers, M. and Odekerken, A. (2013), "Trust and affective commitment as energizing forces for export performance", *International Business Review,* Vol. 22 No. 2, pp. 363-380.

Boehe, D. M. and Cruz, L. B. (2010), "Corporate social responsibility, product differentiation strategy and export performance", *Journal of Business Ethics,* Vol. 91 No. 2, pp. 325-346.

Boso, N., Story, V. M., Cadogan, J. W., Micevski, M. and Kadic-Maglajlic, S. (2013), "Firm innovativeness and export performance: Environmental, networking, and structural contingencies", *Journal of International Marketing,* Vol. 21 No. 4, pp. 62-87.

Bradley, F., Gao, Y. and Sousa, C. M. P. (2013), "A natural science approach to investigate cross-cultural managerial creativity", *International Business Review,* Vol. 22 No. 5, pp. 839-855.

Brouthers, L. E., Nakos, G., Hadjimarcou, J. and Brouthers, K. D. (2009), "Key factors for successful export performance for small firms", *Journal of International Marketing,* Vol. 17 No. 3, pp. 21-38.

Brouthers, L. E., O'Donnell, E. and Keig, D. L. (2013), "Isomorphic pressures, peripheral product attributes and emerging market firm export performance", *Management International Review,* Vol. 53 No. 5, pp. 687-710.

Buck, T., Liu, X., Wei, Y. and Liu, X. (2007), "The trade development path and export spillovers in China: A missing link?", *Management International Review*, Vol. 47 No. 5, pp. 683-706.

Cadogan, J. W., Kuivalainen, O. and Sundqvist, S. (2009), "Export market-oriented behavior and export performance: Quadratic and moderating effects under differing degrees of market dynamism and internationalization", *Journal of International Marketing*, Vol. 17 No. 4, pp. 71-89.

Cadogan, J. W., Sundqvist, S., Puumalainen, K. and Salminen, R. T. (2012), "Strategic flexibilities and export performance: The moderating roles of export market-oriented behavior and the export environment", *European Journal of Marketing*, Vol. 46 No. 10, pp. 1418-1452.

Calantone, R. J., Kim, D., Schmidt, J. B. and Cavusgil, S. T. (2006), "The influence of internal and external firm factors on international product adaptation strategy and export performance: A three-country comparison", *Journal of Business Research*, Vol. 59 No. 2, pp. 176-185.

Carneiro, J., da Silva, J. F. and da Rocha, A. (2011), "Strategic profiles of Brazilian exporters and performance implications", *Journal of Business Research*, Vol. 64 No. 3, pp. 250-257.

Cavusgil, S. T. and Zou, S. (1994), "Marketing strategy-performance relationship: An investigation of the empirical link in export market ventures", *Journal of Marketing*, Vol. 58 No. 1, pp. 1-21.

Chang, S.-J., van Witteloostuijn, A. and Eden, L. (2010), "From the editors: Common method variance in international business research", *Journal of International Business Studies*, Vol. 41 No. 2, pp. 178-184.

Chelariu, C., Bello, D. C. and Gilliland, D. I. (2006), "Institutional antecedents and performance consequences of influence strategies in export channels to Eastern European transitional economies", *Journal of Business Research*, Vol. 59 No. 5, pp. 525-534.

Chung, H. F. (2012), "Export market orientation, managerial ties, and performance", *International Marketing Review*, Vol. 29 No. 4, pp. 403-423.

Chung, H. F., Wang, C. L. and Huang, P.-h. (2012), "A contingency approach to international marketing strategy and decision-making structure among exporting firms", *International Marketing Review*, Vol. 29 No. 1, pp. 54-87.

Combs, J. G., Ketchen Jr, D. J., Crook, T. R. and Roth, P. L. (2011), "Assessing cumulative evidence within 'macro'research: Why meta-analysis should be preferred over vote counting", *Journal of Management Studies*, Vol. 48 No. 1, pp. 178-197.

Conner, K. R. (1991), "A historical comparison of resource-based theory and five schools of thought within industrial organization economics: Do we have a new theory of the firm?", *Journal of Management,* Vol. 17 No. 1, pp. 121-154.

Coudounaris, D. N. (2011), "Influences of managerial drivers on export sales units' performance of small and medium-size enterprises", *Journal of Global Marketing,* Vol. 24 No. 4, pp. 324-344.

Dacin, M. T., Goodstein, J. and Scott, W. R. (2002), "Institutional theory and institutional change: Introduction to the special research forum", *Academy of Management Journal,* Vol. 45 No. 1, pp. 43-56.

De Loecker, J. (2007), "Do exports generate higher productivity? Evidence from Slovenia", *Journal of International Economics,* Vol. 73 No. 1, pp. 69-98.

Dhanaraj, C. and Beamish, P. W. (2003), "A resource-based approach to the study of export performance", *Journal of Small Business Management,* Vol. 41 No. 3, pp. 242-261.

Diamantopoulos, A., Ring, A., Schlegelmilch, B. B. and Doberer, E. (2014), "Drivers of export segmentation effectiveness and their impact on export performance", *Journal of International Marketing,* Vol. 22 No. 1, pp. 39-61.

Dow, D. (2006), "Adaptation and performance in foreign markets: Evidence of systematic under-adaptation", *Journal of International Business Studies,* Vol. 37 No. 2, pp. 212-226.

Droge, C., Vickery, S. K. and Jacobs, M. A. (2012), "Does supply chain integration mediate the relationships between product/process strategy and service performance? An empirical study", *International Journal of Production Economics,* Vol. 137 No. 2, pp. 250-262.

Durmuşoğlu, S. S., Apfelthaler, G., Nayir, D. Z., Alvarez, R. and Mughan, T. (2012), "The effect of government-designed export promotion service use on small and medium-sized enterprise goal achievement: A multidimensional view of export performance", *Industrial Marketing Management,* Vol. 41 No. 4, pp. 680-691.

Eberhard, M. and Craig, J. (2013), "The evolving role of organisational and personal networks in international market venturing", *Journal of World Business,* Vol. 48 No. 3, pp. 385-397.

Eisenhardt, K. M. and Martin, J. A. (2000), "Dynamic capabilities: What are they?", *Strategic Management Journal,* Vol. 21 No. 10/11, pp. 1105-1121.

Fabling, R. and Sanderson, L. (2013), "Exporting and firm performance: Market entry, investment and expansion", *Journal of International Economics,* Vol. 89 No. 2, pp. 422-431.

Fernández, Z. and Nieto, M. J. (2006), "Impact of ownership on the international involvement of SMEs", *Journal of International Business Studies,* Vol. 37 No. 3, pp. 340-351.

Filatotchev, I., Liu, X., Buck, T. and Wright, M. (2009), "The export orientation and export performance of high-technology SMEs in emerging markets: The effects of knowledge transfer by returnee entrepreneurs", *Journal of International Business Studies,* Vol. 40 No. 6, pp. 1005-1021.

Fiol, C. M. and Lyles, M. A. (1985), "Organizational learning", *Academy of Management Review,* Vol. 10 No. 4, pp. 803-813.

Flannery, M. J. and Hankins, K. W. (2013), "Estimating dynamic panel models in corporate finance", *Journal of Corporate Finance,* Vol. 19 No. February, pp. 1-19.

Foedermayr, E., Diamantopoulos, A. and Sichtmann, C. (2009), "Export segmentation effectiveness: Index construction and link to export performance", *Journal of Strategic Marketing,* Vol. 17 No. 1, pp. 55-73.

Freeman, J. and Styles, C. (2014), "Does location matter to export performance?", *International Marketing Review,* Vol. 31 No. 2, pp. 181-208.

Freixanet, J. (2012), "Export promotion programs: Their impact on companies' internationalization performance and competitiveness", *International Business Review,* Vol. 21 No. 6, pp. 1065-1086.

Ganotakis, P. and Love, J. H. (2012), "Export propensity, export intensity and firm performance: The role of the entrepreneurial founding team", *Journal of International Business Studies,* Vol. 43 No. 8, pp. 693-718.

Gao, G. Y., Murray, J. Y., Kotabe, M. and Lu, J. (2010), "A "strategy tripod" perspective on export behaviors: Evidence from domestic and foreign firms based in an emerging economy", *Journal of International Business Studies,* Vol. 41 No. 3, pp. 377-396.

Gashi, P., Hashi, I. and Pugh, G. (2014), "Export behaviour of SMEs in transition countries", *Small Business Economics,* Vol. 42 No. 2, pp. 407-435.

Gertner, R. K., Gertner, D. and Guthery, D. (2007), "The implications of export performance measurement for the significance of the determinants of export performance: An empirical investigation of Brazilian firms", *Journal of Global Marketing,* Vol. 20 No. 1, pp. 21-38.

Girma, S., Gong, Y., Görg, H. and Yu, Z. (2009), "Can production subsidies explain China's export performance? Evidence from firm-level data*", *The Scandinavian Journal of Economics,* Vol. 111 No. 4, pp. 863-891.

Glass, G. V., Peckham, P. D. and Sanders, J. R. (1972), "Consequences of failure to meet assumptions underlying the fixed effects analyses of variance and covariance", *Review of Educational Research,* Vol. 42 No. 3, pp. 237-288.

Griffith, D. A. and Dimitrova, B. V. (2014), "Business and cultural aspects of psychic distance and complementarity of capabilities in export relationships", *Journal of International Marketing,* Vol. 22 No. 3, pp. 50-67.

Hagen, B., Zucchella, A., Cerchiello, P. and De Giovanni, N. (2012), "International strategy and performance-clustering strategic types of SMEs", *International Business Review,* Vol. 21 No. 3, pp. 369-382.

Hair, J. F., Black, W. C., Babin, B. J. and Anderson, R. E. (2009), *Multivariate data analysis: A global perspective,* Pearson Education Upper Saddle River, N.J.

Harrigan, K. R. (1983), "Research methodologies for contingency approaches to business strategy", *Academy of Management Review,* Vol. 8 No. 3, pp. 398-405.

Hartmann, F. G. H. and Moers, F. (1999), "Testing contingency hypotheses in budgetary research: An evaluation of the use of moderated regression analysis", *Accounting, Organizations and Society,* Vol. 24 No. 4, pp. 291-315.

He, X., Brouthers, K. D. and Filatotchev, I. (2013), "Resource-based and institutional perspectives on export channel selection and export performance", *Journal of Management,* Vol. 39 No. 1, pp. 27-47.

He, X. and Wei, Y. (2011), "Linking market orientation to international market selection and international performance", *International Business Review,* Vol. 20 No. 5, pp. 535-546.

He, X. and Wei, Y. (2013), "Export market location decision and performance: The role of external networks and absorptive capacity", *International Marketing Review,* Vol. 30 No. 6, pp. 559-590.

Helfat, C. E. and Peteraf, M. A. (2003), "The dynamic resource-based view: Capability lifecycles", *Strategic Management Journal,* Vol. 24 No. 10, pp. 997-1010.

Higón, D. A. and Driffield, N. (2011), "Exporting and innovation performance: Analysis of the annual small business survey in the UK", *International Small Business Journal,* Vol. 29 No. 1, pp. 4-24.

Hortinha, P., Lages, C. and Lages, L. F. (2011), "The trade-off between customer and technology orientations: Impact on innovation capabilities and export performance", *Journal of International Marketing,* Vol. 19 No. 3, pp. 36-58.

Hughes, M., Martin, S. L., Morgan, R. E. and Robson, M. J. (2010), "Realizing product-market advantage in high-technology international new ventures: The mediating role of ambidextrous innovation", *Journal of International Marketing,* Vol. 18 No. 4, pp. 1-21.

Hult, G. T. M., Ketchen, D. J., Griffith, D. A., Chabowski, B. R., Hamman, M. K., Dykes, B. J., Pollitte, W. A. and Cavusgil, S. T. (2008), "An assessment of the measurement of performance in international business research", *Journal of International Business Studies,* Vol. 39 No. 6, pp. 1064-1080.

Hultman, M., Katsikeas, C. S. and Robson, M. J. (2011), "Export promotion strategy and performance: The role of international experience", *Journal of International Marketing,* Vol. 19 No. 4, pp. 17-39.

Hultman, M., Robson, M. J. and Katsikeas, C. S. (2009), "Export product strategy fit and performance: An empirical investigation", *Journal of International Marketing,* Vol. 17 No. 4, pp. 1-23.

Hunter, J. E. and Schmidt, F. L. (2004), *Methods of meta-analysis: Correcting error and bias in research findings*, Sage Publication, Newbury Park, CA.

Judd, C. M., McClelland, G. H. and Culhane, S. E. (1995), "Data analysis: Continuing issues in the everyday analysis of psychological data", *Annual Review of Psychology,* Vol. 46 No. 1, pp. 433-465.

Kaleka, A. (2011), "When exporting manufacturers compete on the basis of service: Resources and marketing capabilities driving service advantage and performance", *Journal of International Marketing,* Vol. 19 No. 1, pp. 40-58.

Kaleka, A. (2012), "Studying resource and capability effects on export venture performance", *Journal of World Business,* Vol. 47 No. 1, pp. 93-105.

Katsikea, E., Theodosiou, M. and Morgan, R. E. (2007), "Managerial, organizational, and external drivers of sales effectiveness in export market ventures", *Journal of the Academy of Marketing Science,* Vol. 35 No. 2, pp. 270-283.

Katsikeas, C. S. (2003), "Advances in international marketing theory and practice", *International Business Review,* Vol. 12 No. 2, pp. 135-140.

Katsikeas, C. S., Leonidou, L. C. and Morgan, N. A. (2000), "Firm-level export performance assessment: Review, evaluation, and development", *Journal of the Academy of Marketing Science,* Vol. 28 No. 4, pp. 493-511.

Katsikeas, C. S., Samiee, S. and Theodosiou, M. (2006), "Strategy fit and performance consequences of international marketing standardization", *Strategic Management Journal,* Vol. 27 No. 9, pp. 867-890.

Knight, G. (2000), "Entrepreneurship and marketing strategy: The SME under globalization", *Journal of International Marketing,* Vol. 8 No. 2, pp. 12-32.

Knight, G. A. and Cavusgil, S. T. (2004), "Innovation, organizational capabilities, and the born-global firm", *Journal of International Business Studies,* Vol. 35 No. 2, pp. 124-141.

Kraaijenbrink, J., Spender, J.-C. and Groen, A. J. (2010), "The resource-based view: A review and assessment of its critiques", *Journal of Management,* Vol. 36 No. 1, pp. 349-372.

Kuivalainen, O., Sundqvist, S. and Servais, P. (2007), "Firms' degree of born-globalness, international entrepreneurial orientation and export performance", *Journal of World Business,* Vol. 42 No. 3, pp. 253-267.

Lages, L. F., Jap, S. D. and Griffith, D. A. (2008), "The role of past performance in export ventures: A short-term reactive approach", *Journal of International Business Studies,* Vol. 39 No. 2, pp. 304-325.

Lages, L. F., Silva, G. and Styles, C. (2009), "Relationship capabilities, quality, and innovation as determinants of export performance", *Journal of International Marketing,* Vol. 17 No. 4, pp. 47-70.

Lee, S.-H., Beamish, P. W., Lee, H.-U. and Park, J.-H. (2009), "Strategic choice during economic crisis: Domestic market position, organizational capabilities and export flexibility", *Journal of World Business,* Vol. 44 No. 1, pp. 1-15.

Lengler, J. F., Sousa, C. M. P. and Marques, C. (2013a), "Examining the relationship between market orientation and export performance: The moderating role of competitive intensity", *Advances in International Marketing,* Vol. 24 No. 1, pp. 75-102.

Lengler, J. F., Sousa, C. M. P. and Marques, C. (2013b), "Exploring the linear and quadratic effects of customer and competitor orientation on export performance", *International Marketing Review,* Vol. 30 No. 5, pp. 440-468.

Leonidou, L. C., Katsikeas, C. S., Fotiadis, T. A. and Christodoulides, P. (2013), "Antecedents and consequences of an eco-friendly export marketing strategy: The moderating role of foreign public concern and competitive intensity", *Journal of International Marketing,* Vol. 21 No. 3, pp. 22-46.

Leonidou, L. C., Katsikeas, C. S., Palihawadana, D. and Spyropoulou, S. (2007), "An analytical review of the factors stimulating smaller firms to export: Implications for policy-makers", *International Marketing Review,* Vol. 24 No. 6, pp. 735-770.

Li, J., Vertinsky, I. and Zhang, H. (2013), "The quality of domestic legal institutions and export performance: Theory and evidence from China", *Management International Review,* Vol. 53 No. 3, pp. 361-390.

Li, L.-y. (2010), "Factors that reduce rigid product adaptation decisions: The case of exporting firms in China", *Industrial Marketing Management,* Vol. 39 No. 4, pp. 531-537.

Lin, W.-T., Liu, Y. and Cheng, K.-Y. (2011), "The internationalization and performance of a firm: Moderating effect of a firm's behavior", *Journal of International Management,* Vol. 17 No. 1, pp. 83-95.

Lindell, M. K. and Whitney, D. J. (2001), "Accounting for common method variance in cross-sectional research designs", *Journal of Applied Psychology,* Vol. 86 No. 1, pp. 114-121.

Ling-yee, L. and Ogunmokun, G. O. (2008), "An empirical study of manufacturing flexibility of exporting firms in China: How do strategic and organizational contexts matter?", *Industrial Marketing Management,* Vol. 37 No. 6, pp. 738-751.

LiPuma, J. A., Newbert, S. L. and Doh, J. P. (2013), "The effect of institutional quality on firm export performance in emerging economies: A contingency model of firm age and size", *Small Business Economics,* Vol. 40 No. 4, pp. 817-841.

Lisboa, A., Skarmeas, D. and Lages, C. (2011a), "Innovative capabilities: Their drivers and effects on current and future performance", *Journal of Business Research,* Vol. 64 No. 11, pp. 1157-1161.

Lisboa, A., Skarmeas, D. and Lages, C. (2011b), "Entrepreneurial orientation, exploitative and explorative capabilities, and performance outcomes in export markets: A resource-based approach", *Industrial Marketing Management,* Vol. 40 No. 8, pp. 1274-1284.

Lisboa, A., Skarmeas, D. and Lages, C. (2013), "Export market exploitation and exploration and performance: Linear, moderated, complementary and non-linear effects", *International Marketing Review,* Vol. 30 No. 3, pp. 211-230.

Lu, J., Xu, B. and Liu, X. (2009), "The effects of corporate governance and institutional environments on export behaviour in emerging economies: Evidence from China", *Management International Review,* Vol. 49 No. 4, pp. 455-478.

Lu, V. N. and Julian, C. C. (2008), "The internet, strategy and performance: A study of Australian export market ventures", *Journal of Global Marketing,* Vol. 21 No. 3, pp. 231-240.

Magnusson, P., Westjohn, S. A., Semenov, A. V., Randrianasolo, A. A. and Zdravkovic, S. (2013), "The role of cultural intelligence in marketing adaptation and export performance", *Journal of Marketing Research,* Vol. 21 No. 4, pp. 44-61.

Manolova, T. S., Manev, I. M. and Gyoshev, B. S. (2010), "In good company: The role of personal and inter-firm networks for new-venture internationalization in a transition economy", *Journal of World Business,* Vol. 45 No. 3, pp. 257-265.

Martín-Tapia, I., Aragón-Correa, J. A. and Rueda-Manzanares, A. (2010), "Environmental strategy and exports in medium, small and micro-enterprises", *Journal of World Business,* Vol. 45 No. 3, pp. 266-275.

Matanda, M. J. and Freeman, S. (2009), "Effect of perceived environmental uncertainty on exporter-importer inter-organisational relationships and export performance improvement", *International Business Review,* Vol. 18 No. 1, pp. 89-107.

Melitz, M. J. (2003), "The impact of trade on intra-industry reallocations and aggregate industry productivity", *Econometrica,* Vol. 71 No. 6, pp. 1695-1725.

Miocevic, D. and Crnjak-Karanovic, B. (2011), "Cognitive and information-based capabilities in the internationalization of small and medium-sized enterprises: The case of Croatian exporters", *Journal of Small Business Management,* Vol. 49 No. 4, pp. 537-557.

Mittelstaedt, J. D., Ward, W. A. and Nowlin, E. (2006), "Location, industrial concentration and the propensity of small US firms to export: Entrepreneurship in the international marketplace", *International Marketing Review,* Vol. 23 No. 5, pp. 486-503.

Moen, Ø., Madsen, T. K. and Aspelund, A. (2008), "The importance of the internet in international business-to-business markets", *International Marketing Review,* Vol. 25 No. 5, pp. 487-503.

Moon, B.-J. and Jain, S. C. (2007), "Determinants and outcomes of internet marketing activities of exporting firms", *Journal of Global Marketing,* Vol. 20 No. 4, pp. 55-71.

Morgan, J. N. and Sonquist, J. A. (1963), "Problems in the analysis of survey data, and a proposal", *Journal of the American Statistical Association,* Vol. 58 No. 302, pp. 415-434.

Morgan, N. A., Katsikeas, C. S. and Vorhies, D. W. (2012), "Export marketing strategy implementation, export marketing capabilities, and export venture performance", *Journal of the Academy of Marketing Science,* Vol. 40 No. 2, pp. 271-289.

Morgan, N. A., Vorhies, D. W. and Schlegelmilch, B. B. (2006), "Resource-performance relationships in industrial export ventures: The role of resource inimitability and substitutability", *Industrial Marketing Management,* Vol. 35 No. 5, pp. 621-633.

Murray, J. Y., Gao, G. Y. and Kotabe, M. (2011), "Market orientation and performance of export ventures: The process through marketing capabilities and competitive advantages", *Journal of the Academy of Marketing Science,* Vol. 39 No. 2, pp. 252-269.

Nakos, G., Brouthers, K. D. and Dimitratos, P. (2014), "International alliances with competitors and non-competitors: The disparate impact on SME international performance", *Strategic Entrepreneurship Journal,* Vol. 8 No. 2, pp. 167-182.

Navarro-García, A., Arenas-Gaitán, J. and Rondán-Cataluña, F. J. (2014), "External environment and the moderating role of export market orientation", *Journal of Business Research,* Vol. 67 No. 5, pp. 740-745.

Navarro, A., Losada, F., Ruzo, E. and Díez, J. A. (2010), "Implications of perceived competitive advantages, adaptation of marketing tactics and export commitment on export performance", *Journal of World Business,* Vol. 45 No. 1, pp. 49-58.

Nazar, M. S. and Saleem, H. M. N. (2011), "Firm-level determinants of export performance", *International Business & Economics Research Journal,* Vol. 8 No. 2, pp. 105-112.

Nes, E. B., Solberg, C. A. and Silkoset, R. (2007), "The impact of national culture and communication on exporter-distributor relations and on export performance", *International Business Review,* Vol. 16 No. 4, pp. 405-424.

Newbert, S. L., David, R. J. and Han, S.-K. (2014), "Rarely pure and never simple: Assessing cumulative evidence in strategic management", *Strategic Organization,* Vol. 12 No. 2, pp. 142-154.

Obadia, C. and Vida, I. (2011), "Cross-border relationships and performance: Revisiting a complex linkage", *Journal of Business Research,* Vol. 64 No. 5, pp. 467-475.

Okpara, J. O. (2012), "An exploratory study of international strategic choices for exporting firms in Nigeria", *Thunderbird International Business Review,* Vol. 54 No. 4, pp. 479-491.

Oliveira, J. S., Cadogan, J. W. and Souchon, A. (2012), "Level of analysis in export performance research", *International Marketing Review,* Vol. 29 No. 1, pp. 114-127.

Orser, B., Spence, M., Riding, A. and Carrington, C. A. (2010), "Gender and export propensity", *Entrepreneurship Theory and Practice,* Vol. 34 No. 5, pp. 933-957.

Ostini, R., Hegney, D., Jackson, C., Williamson, M., Mackson, J. M., Gurman, K., Hall, W. and Tett, S. E. (2009), "Systematic review of interventions to improve prescribing", *Annals of Pharmacotherapy,* Vol. 43 No. 3, pp. 502-513.

Papadopoulos, N. and Martín Martín, O. (2010), "Toward a model of the relationship between internationalization and export performance", *International Business Review,* Vol. 19 No. 4, pp. 388-406.

Peng, M. W., Wang, D. Y. and Jiang, Y. (2008), "An institution-based view of international business strategy: A focus on emerging economies", *Journal of International Business Studies,* Vol. 39 No. 5, pp. 920-936.

Pla-Barber, J. and Alegre, J. (2007), "Analysing the link between export intensity, innovation and firm size in a science-based industry", *International Business Review,* Vol. 16 No. 3, pp. 275-293.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y. and Podsakoff, N. P. (2003), "Common method biases in behavioral research: A critical review of the literature

and recommended remedies", *Journal of Applied Psychology,* Vol. 88 No. 5, pp. 879–903.

Racela, O. C., Chaikittisilpa, C. and Thoumrungroje, A. (2007), "Market orientation, international business relationships and perceived export performance", *International Marketing Review,* Vol. 24 No. 2, pp. 144-163.

Ramaseshan, B., Ishak, A. and Rabbanee, F. K. (2013), "The role of marketing managers' commitment and involvement in marketing strategy implementation", *Journal of Strategic Marketing,* Vol. 21 No. 6, pp. 1-19.

Raymond, L. and St-Pierre, J. (2013), "Strategic capability configurations for the internationalization of SMEs: A study in equifinality", *International Small Business Journal,* Vol. 31 No. 1, pp. 82-102.

Ricci, L. A. and Trionfetti, F. (2012), "Productivity, networks, and export performance: Evidence from a cross-country firm dataset", *Review of International Economics,* Vol. 20 No. 3, pp. 552-562.

Robertson, C. and Chetty, S. K. (2000), "A contingency-based approach to understanding export performance", *International Business Review,* Vol. 9 No. 2, pp. 211-235.

Robson, P. J., Akuetteh, C. K., Westhead, P. and Wright, M. (2012), "Exporting intensity, human capital and business ownership experience", *International Small Business Journal,* Vol. 30 No. 4, pp. 367-387.

Ruigrok, W. and Wagner, H. (2003), "Internationalization and performance: An organizational learning perspective", *Management International Review,* Vol. 43 No. 1, pp. 63-83.

Sørensen, H. E. and Madsen, T. K. (2012), "Strategic orientations and export market success of manufacturing firms: The role of market portfolio diversity", *International Marketing Review,* Vol. 29 No. 4, pp. 424-441.

Santos-Vijande, M. L., López-Sánchez, J. Á. and Trespalacios, J. A. (2012), "How organizational learning affects a firm's flexibility, competitive strategy, and performance", *Journal of Business Research,* Vol. 65 No. 8, pp. 1079-1089.

Shoham, A. (1996), "Marketing-mix standardization: Determinants of export performance", *Journal of Global Marketing,* Vol. 10 No. 2, pp. 53-73.

Shoham, A., Brencic, M. M., Virant, V. and Ruvio, A. (2008), "International standardization of channel management and its behavioral and performance outcomes", *Journal of International Marketing,* Vol. 16 No. 2, pp. 120-151.

Sibanda, K., Erwee, R. and Ng, E. (2011), "Differences between high and low performing exporting firms in a developing country", *Advances in International Marketing,* Vol. 21 No. 1, pp. 207-228.

Sichtmann, C. and Selasinsky, M. v. (2010), "Exporting services successfully: Antecedents and performance implications of customer relationships", *Journal of International Marketing*, Vol. 18 No. 1, pp. 86-108.

Sichtmann, C., Selasinsky, M. v. and Diamantopoulos, A. (2011), "Service quality and export performance of business-to-business service providers: The role of service employee- and customer-oriented quality control initiatives", *Journal of International Marketing*, Vol. 19 No. 1, pp. 1-22.

Singh, D. A. (2009), "Export performance of emerging market firms", *International Business Review*, Vol. 18 No. 4, pp. 321-330.

Sinkovics, N., Sinkovics, R. R. and Jean, R.-J. B. (2013), "The internet as an alternative path to internationalization?", *International Marketing Review*, Vol. 30 No. 2, pp. 130-155.

Smith, D. (2007), "A cross-cultural classification of service export performance using artificial neural networks: Japan, Germany, United States", *Journal of Global Marketing*, Vol. 20 No. 1, pp. 5-19.

Souchon, A. L., Sy-Changco, J. A. and Dewsnap, B. (2012), "Learning orientation in export functions: Impact on export growth", *International Marketing Review*, Vol. 29 No. 2, pp. 175-202.

Sousa, C. M. P. (2004), "Export performance measurement: An evaluation of the empirical research in the literature", *Academy of Marketing Science Review*, Vol. 9 No. 12, pp. 1-23.

Sousa, C. M. P. and Bradley, F. (2008), "Antecedents of international pricing adaptation and export performance", *Journal of World Business*, Vol. 43 No. 3, pp. 307-320.

Sousa, C. M. P. and Bradley, F. (2009), "Effects of export assistance and distributor support on the performance of SMEs: The case of Portuguese export ventures", *International Small Business Journal*, Vol. 27 No. 6, pp. 681-701.

Sousa, C. M. P. and Lengler, J. (2009), "Psychic distance, marketing strategy and performance in export ventures of Brazilian firms", *Journal of Marketing Management*, Vol. 25 No. 5-6, pp. 591-610.

Sousa, C. M. P. and Lengler, J. (2011), "Examining the determinants of interfunctional coordination and export performance: An investigation of Brazilian exporters. ", *Advances in International Marketing*, Vol. 21 No. 1, pp. 189-206.

Sousa, C. M. P., Lengler, J. F. and Martínez-López, F. J. (2014), "Testing for linear and quadratic effects between price adaptation and export performance: The impact of values and perceptions", *Journal of Small Business Management*, Vol. 52 No. 3, pp. 501-520.

Sousa, C. M. P., Martínez-López, F. J. and Coelho, F. (2008), "The determinants of export performance: A review of the research in the literature between 1998 and 2005", *International Journal of Management Reviews,* Vol. 10 No. 4, pp. 343-374.

Sousa, C. M. P. and Novello, S. (2014), "The influence of distributor support and price adaptation on the export performance of small and medium-sized enterprises", *International Small Business Journal,* Vol. 32 No. 4, pp. 359-385.

Sousa, C. M. P., Ruzo, E. and Losada, F. (2010), "The key role of managers' values in exporting: Influence on customer responsiveness and export performance", *Journal of International Marketing,* Vol. 18 No. 2, pp. 1-19.

Sousa, C. M. P. and Tan, Q. (2015), "Exit from a foreign market: Do poor performance, strategic fit, cultural distance, and international experience matter?", *Journal of International Marketing,* Vol. 23 No. 4, pp. 84-104.

Spyropoulou, S., Skarmeas, D. and Katsikeas, C. S. (2010), "The role of corporate image in business-to-business export ventures: A resource-based approach", *Industrial Marketing Management,* Vol. 39 No. 5, pp. 752-760.

Spyropoulou, S., Skarmeas, D. and Katsikeas, C. S. (2011), "An examination of branding advantage in export ventures", *European Journal of Marketing,* Vol. 45 No. 6, pp. 910-935.

Stoian, M.-C., Rialp, A. and Rialp, J. (2011), "Export performance under the microscope: A glance through Spanish lenses", *International Business Review,* Vol. 20 No. 2, pp. 117-135.

Sundqvist, S., Kyläheiko, K., Kuivalainen, O. and Cadogan, J. W. (2012), "Kirznerian and Schumpeterian entrepreneurial-oriented behavior in turbulent export markets", *International Marketing Review,* Vol. 29 No. 2, pp. 203-219.

Tan, Q. and Sousa, C. M. P. (2011), "Research on export pricing: Still moving toward maturity", *Journal of International Marketing,* Vol. 19 No. 3, pp. 1-35.

Tan, Q. and Sousa, C. M. P. (2013), "International marketing standardization: A meta-analytic estimation of its antecedents and consequences", *Management International Review,* Vol. 53 No. 5, pp. 711-739.

Tenenhaus, M., Vinzi, V. E., Chatelin, Y.-M. and Lauro, C. (2005), "PLS path modeling", *Computational Statistics & Data Analysis,* Vol. 48 No. 1, pp. 159-205.

Theodosiou, M. and Katsikea, E. (2013), "The export information system: An empirical investigation of its antecedents and performance outcomes", *Journal of International Marketing,* Vol. 21 No. 3, pp. 72-94.

Tsinopoulos, C., Lages, L. F. and Sousa, C. M. P. (2014), "Export experience counts: Exploring its effect on product design change", *R&D Management,* Vol. 44 No. 5, pp. 450-465.

Ural, T. (2009), "The effects of relationship quality on export performance: A classification of small and medium-sized Turkish exporting firms operating in single export-market ventures", *European Journal of Marketing,* Vol. 43 No. 1/2, pp. 139-168.

Villar, C., Alegre, J. and Pla-Barber, J. (2014), "Exploring the role of knowledge management practices on exports: A dynamic capabilities view", *International Business Review,* Vol. 23 No. 1, pp. 38-44.

Wang, Y., Cao, W., Zhou, Z. and Ning, L. (2013), "Does external technology acquisition determine export performance? Evidence from Chinese manufacturing firms", *International Business Review,* Vol. 22 No. 6, pp. 1079-1091.

Wei, Y. S., Samiee, S. and Lee, R. P. (2014), "The influence of organic organizational cultures, market responsiveness, and product strategy on firm performance in an emerging market", *Journal of the Academy of Marketing Science,* Vol. 42 No. 1, pp. 49-70.

Wengel, J. T. and Rodriguez, E. (2006), "SME export performance in Indonesia after the crisis", *Small Business Economics,* Vol. 26 No. 1, pp. 25-37.

Wheeler, C., Ibeh, K. and Dimitratos, P. (2008), "UK export performance research review and implications", *International Small Business Journal,* Vol. 26 No. 2, pp. 207-239.

Wilkinson, T. and Brouthers, L. E. (2006), "Trade promotion and SME export performance", *International Business Review,* Vol. 15 No. 3, pp. 233-252.

Yalcinkaya, G., Calantone, R. J. and Griffith, D. A. (2007), "An examination of exploration and exploitation capabilities: Implications for product innovation and market performance", *Journal of International Marketing,* Vol. 15 No. 4, pp. 63-93.

Yeoh, P.-L. (2014), "Internationalization and performance outcomes of entrepreneurial family SMEs: The role of outside CEOs, technology sourcing, and innovation", *Thunderbird International Business Review,* Vol. 56 No. 1, pp. 77-96.

Yeoh, P.-L. and Jeong, I. (1995), "Contingency relationships between entrepreneurship, export channel structure and environment: A proposed conceptual model of export performance", *European Journal of Marketing,* Vol. 29 No. 8, pp. 95-115.

Yi, J., Wang, C. and Kafouros, M. (2012), "The effects of innovative capabilities on exporting: Do institutional forces matter?", *International Business Review,* Vol. 22 No. 2, pp. 392-406.

Zeriti, A., Robson, M. J., Spyropoulou, S. and Leonidou, C. N. (2014), "Sustainable export marketing strategy fit and performance", *Journal of International Marketing,* Vol. 22 No. 4, pp. 44-66.

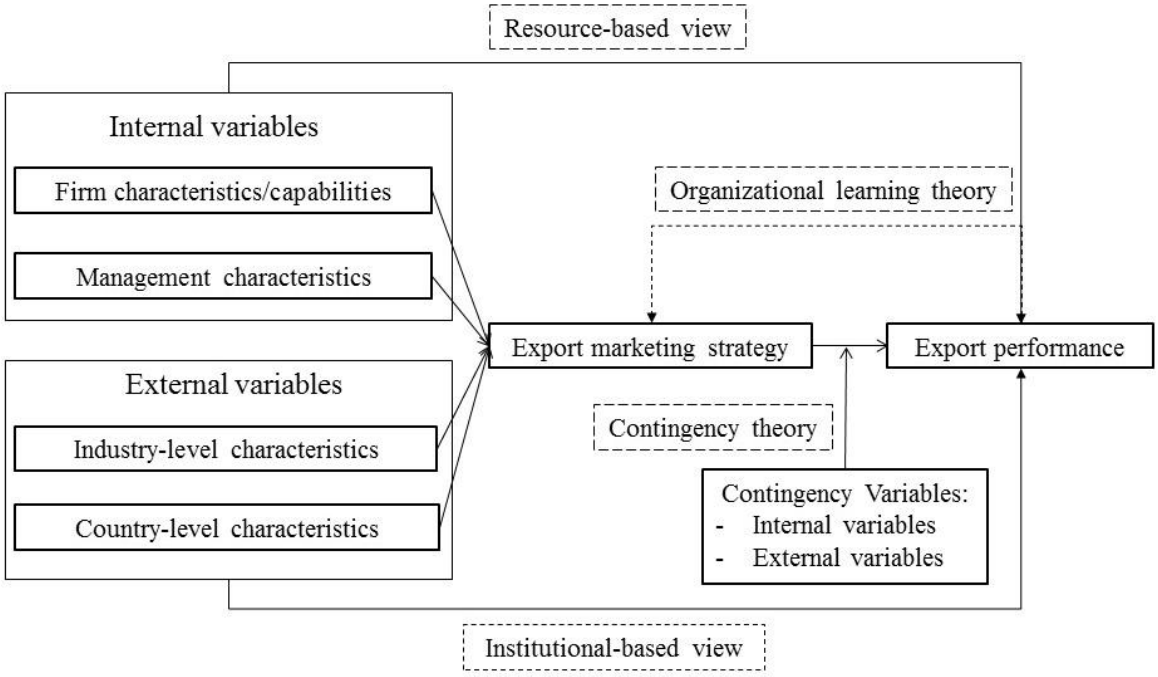
Zhang, M., Sarker, S. and Sarker, S. (2008), "Unpacking the effect of IT capability on the performance of export-focused SMEs: A report from China", *Information Systems Journal,* Vol. 18 No. 4, pp. 357-380.

Zhou, L., Wu, W.-p. and Luo, X. (2007), "Internationalization and the performance of born-global SMEs: The mediating role of social networks", *Journal of International Business Studies,* Vol. 38 No. 4, pp. 673-690.

Zou, S. and Stan, S. (1998), "The determinants of export performance: A review of the empirical literature between 1987 and 1997", *International Marketing Review,* Vol. 15 No. 5, pp. 333-356.

Zou, S., Taylor, C. R. and Osland, G. E. (1998), "The EXPERF scale: A cross-national generalized export performance measure", *Journal of International Marketing,* Vol. 6 No. 3, pp. 37-58.

Figure 1: Conceptual Framework of Export Performance



Appendices

Appendix 1: List of Journal of the Reviewed Literature

Journal	Frequency
Journal of International Marketing	18
International Business Review	15
International Marketing Review	13
Journal of World Business	10
Journal of International Business Studies	8
Industrial Marketing Management	6
Journal of Business Research	6
Journal of Global Marketing	6
International Small Business Journal	5
Management International Review	5
Small Business Economics	4
Advances in International Marketing	3
Journal of Small Business Management	3
Journal of the Academy of Marketing Science	3
European Journal of Marketing	2
Journal of Marketing Research	2
Thunderbird International Business Review	2
British Journal of Management	1
Ecological Economics	1
Entrepreneurship Theory and Practice	1
International Journal of Production Economics	1
Journal of Business Ethics	1
Journal of International Management	1
Journal of Management	1
Journal of Marketing Management	1
Journal of Strategic Marketing	1
Review of International Economics	1
Scandinavian Journal of Economics	1
Strategic Entrepreneurship Journal	1
Strategic Management Journal	1

Appendix 2: Descriptive Summaries of Studies Reviewed

Papers using survey data												
	Authors	**Theory**	**Country**	**Industry Sector**	**Firm Size**	**Data Collection**	**Sample Size**	**Response Rate (%)**	**Respondents Position**	**Unit of Analysis**	**Export Performance**	**Analytical Method**
1	Calantone et al. (2006)	RBV, IO	UK, Japan, South Korea,	M	SML(I)	Q(M)	685	39.35%	PM	EV	ExS	CFA, SEM
2	Chelariu et al. (2006)	IBV	US	M	SML	Q(M)	188	51.00%	EM	EV	GAC(ES, PR, EG)	SEM
3	Dow (2006)	BT	Australia	M(I)	SML(I)	Q(M)	100	48.00%	ED	EV	ESG, PR, SAT, ExS	MLR
4	Katsikeas et al. (2006)	FT	UK	M	SML	Q(M)	171	33.00%	CAI	EV	ES, ESG, NS, PR, ROI, PRG, CSAT, CuT	SEM
5	Morgan et al. (2006)	RBV	Germany/UK	M	SML(I)	Q(M)	150/189	25%/42%	EM	EV	MSG, ANC, ES, ESG	LR
6	Wilkinson and Brouthers (2006)	RBV	US	M(I)	SMEs	Q(M)	105	14.00%	TM/VP/GM	F	SAT	LR
7	Balabanis and Spyropoulou (2007)	CoT, SOT	UK	M(I)	SML(I)	Q(M)	82	18.50%	MD	F	ESG, PR, ROI, OP	MSR
8	Gertner et al. (2007)	-	Brazil	M	SML	Q(M)	114	18.40%	EE	F	EI, ES, EG, PEE, OP, GAC	MLR
9	Katsikea et al. (2007)	SMT	UK	M	SMEs	Q(M)	234	26.00%	ESM	EV	ES, MS, PR, CSAT	CFA, SEM
10	Kuivalainen et al. (2007)	-	Finland	M(I)	ML	Q(M)	783	81.00%	EM/ED	EV	ESG, SAT(ES, MS, ID, PR), PR, ROS	HR
11	Moon and Jain (2007)	TCT	US	M	SML	Q(M)	208	19.20%	CEO	F	PR, MS	LR
12	Nes et al. (2007)	TCT, AT	40 countries	M(I)	SML(I)	I(SQ)	120	74.53%	EM/PM	EV	ESG, PR, PRG	CFA, SEM

Papers using survey data												
	Authors	**Theory**	**Country**	**Industry Sector**	**Firm Size**	**Data Collection**	**Sample Size**	**Response Rate (%)**	**Respondents Position**	**Unit of Analysis**	**Export Performance**	**Analytical Method**
13	Pla-Barber and Alegre (2007)	RBV	France	BT	SML(I)	Q(E/F)	121	55.00%	RDM	F	EI	CFA, SEM
14	Racela et al. (2007)	SET	Thailand	M	SML(I)	Q(M)	279	100.00%	EM	EV	ES, MS, PR, SAT	FA, SEM
15	Smith (2007)	ITT	Japan, Germany, US	ES	SML(I)	Q	1,246	25.40%	-	F	EI	ANN
16	Zhou et al. (2007)	SNT	China	M	SMEs	I(SQ)	129	51.60%	TM	F	EG, PRG, ESG	FA, SEM
17	Armario et al. (2008)	RBV, BT	Spain	M	SMEs	Q(M)	112	7.55%	IMM	F	ES, PR, ESG, PRG	EFA, SEM
18	Lages et al. (2008)	OLT	Portugal	M(I)	SMEs	Q(M)	519	22.00%	P/MD/EMD	EV	EI, SAT, GAC	CFA, SEM
19	Ling-yee and Ogunmokun (2008)	CCT, CoT	China	M(I)	SML	Q(M)	222	39.60%	MiM/SM	EV	PRG, MSG, RC, CUG, NP, TN	EFA, MLR, HR, SA
20	Lu and Julian (2008)	-	Australia	M	SMEs	Q(M)	133	42.20%	-	EV	EXPERF	PCA, MLR
21	Moen et al. (2008)	-	Denmark/Norway	M	SMEs	Q	308/327	13%/13%	SM	F	ESG, MS, PR, OP	CFA, SEM
22	Shoham et al. (2008)	IBV, FT	Slovenia	M	SML(I)	Q(M)	167	23.00%	GM	F	EXPERF	CFA, SEM
23	Sousa and Bradley (2008)	RMT, CoT	Portugal	M	SML(I)	Q(M)	301	34.40%	SM	EV	CoR, EI, ESG, EXP, PR	CFA, SEM
24	Zhang et al. (2008)	RBV	China	IT	SMEs	I(SQ)	99	55.00%	TM	F	ES, ESG, GC, MSG, PR, SS	PLS-PM
25	Brouthers et al. (2009)	OLT	Greece/Caribbean countries	M	S	Q(M)	119/83	30%/27%	EM	F	ES, PR	LR
26	Cadogan et al. (2009)	RBV	Finland	M	M	Q(M)	783	81.00%	CEO	F	SAT(ES, ME, MS), ESG	PR
27	Filatotchev et al. (2009)	RBV, IBV, KBV	China	HT	SMEs	Q(M)	711	38.79%	CEO	EV	SAT (ESG, MS, PR)	EFA, ProM
28	Foedermayr et al. (2009)	PT	Austria	M(I)	SML(I)	Q(O)	86	12.50%	SM	F	ES, PR, MS, EG, IE, SAT	PLS-PM

Papers using survey data												
	Authors	**Theory**	**Country**	**Industry Sector**	**Firm Size**	**Data Collection**	**Sample Size**	**Response Rate (%)**	**Respondents Position**	**Unit of Analysis**	**Export Performance**	**Analytical Method**
29	Hultman et al. (2009)	CoT, OLT	Sweden	M	SML(I)	Q(M)	341	60.80%	ED/ SD/ MD/ CEO	EV	MPe, FPe, CPe	LR
30	Lages et al. (2009)	RBV	Portugal	M	SML	Q(M)	112	26.70%	ED & QD	EV	RQ, CuP, CuL, ES, MS, PR, EI	PLS-PM
31	Matanda and Freeman (2009)	RBV, SET	Zimbabwe	M(I)	SME(I)	I(FtF)	262	58.22%	SM	EV	PR, PM, ROA	CFA, SEM, ML
32	Sousa and Bradley (2009)	RBV	Portugal	M	SMEs	Q(M)	287	34.50%	SM	EV	CoR, MS, SAT	CFA
33	Sousa and Lengler (2009)	RBV	Brazil	M	SML(I)	Q(M)	201	20.10%	GM	EV	EI, MS, EXP	CFA, ML
34	Ural (2009)	RDT, RMT, RAT	Turkey	M(I)	SMEs	I(SQ)	300	100.00%	CAI	EV	EXPERF	CFA, SEM
35	Beleska-Spasova and Glaister (2010)	-	UK	M	SML	Q(O)	356	23.70%	EM/ED	F	EXPERF	LoR
36	Boehe and Cruz (2010)	RBV, IBV	Brazil	M	SML	Q(M)	252	7.50%	CD/EM	F	ES, MP, OP, PR	CFA, SEM
37	Hughes et al. (2010)	RBV	Mexico	HT	SMEs	I(T)	260	19.80%	ExM/ExD/CEO	EV	MSG, ESG, PR, ROI, ROS, PM, RtP, TN, NS	SEM
38	Li (2010)	TRT	China	M	SML(I)	Q(M)	389	51.90%	EM	EV	SAT, EXP, ExS	CFA, SEM, ML
39	Manolova et al. (2010)	IT, IO	Bulgaria	M	S	Q	623	-	-	EV	EI	LR
40	Martín-Tapia et al. (2010)	RBV	Spain	F	SMEs	Q(FtF)	123	10.00%	CEO/GM	F	EI	MLR
41	Navarro et al. (2010)	CoT	Spain	M	SML(I)	I(SQ)	150	8.65%	SM	F	ESG, FI, PR, MS, IE	PLS-PM
42	Orser et al. (2010)	LFT, SFT	Canada	M+S	SMEs	Q(F)	3,141	38.72%	O/EM	F	Epr, EI	LoR, MR
43	Papadopoulos and Martín Martín (2010)	BT, RBV	Spain	M	SML	Q(M)	140	68.63%	GM/IMM	EV	PR, ES, SP	PLS-PM

Papers using survey data												
	Authors	**Theory**	**Country**	**Industry Sector**	**Firm Size**	**Data Collection**	**Sample Size**	**Response Rate (%)**	**Respondents Position**	**Unit of Analysis**	**Export Performance**	**Analytical Method**
44	Sichtmann and Selasinsky (2010)	RMT	Germany	M+S	SMEs	Q(O)	285	16.20%	EM	EV	EXPERF	PLS-PM
45	Sousa et al. (2010)	ST	Spain	M	SML(I)	Q(M)	208	17.00%	DM	EV	SS, GC, CoR	CFA, SEM, ML
46	Spyropoulou et al. (2010)	RBV	Greece	M	SME(I)	Q(M)	311	45.20%	EM	EV	ROI, ROS, PM, GAC	
47	Carneiro et al. (2011)	CoT	Brazil	M	SML	Q(M)	414	15.50%	-	EV	SAT(ES, ESG, PR), FEP	CLA, MANOVA
48	Coudounaris (2011)	EMP	Cyprus	M	SMEs	Q(FtF)	52	26.00%	EM	EV	ES, MS, PR, CSAT	PLS-PM
49	He and Wei (2011)	RBV	China	M(I)	SML(I)	Q(M)	230	45.90%	CEO/MD	EV	PR, ESG, SAT, GAC	HLoR, SEM, ML
50	Hortinha et al. (2011)	OLT	Portugal	M	SML(I)	Q(O)	170	22.79%	EM & RDM	EV	ES, ESG, PR	PLS-PM
51	Hultman et al. (2011)	CoT, OLT	Sweden	M	SML(I)	Q(M)	336	60.00%	CAI	EV	MPe, FPe, CPe	CFA, SEM
52	Kaleka (2011)	RBV	UK	M	SMEs	Q(M)	312	35.30%	CAI	EV	MS, PR, OP, GAC, NS	CFA, SEM
53	Lisboa et al. (2011a)	OLT	Portugal	M(I)	SMEs	Q(O)	262	20.60%	CAI	F	PR	CFA, SEM
54	Lisboa et al. (2011b)	RBV, OLT	Portugal	M	SMEs	Q(O)	254	19.98%	CEO/EM	F	ESG, MSG, ANC	SEM
55	Miocevic and Crnjak-Karanovic (2011)	IT	Croatia	M	SMEs	Q(M)	125	24.00%	CAI	EV	EXPERF	PLS-PM
56	Murray et al. (2011)	RBV	China	M	SML(I)	Q(FtF)	491	37.00%	SM	EV	ES, PR, EG, SP, PP	CFA, SEM
57	Obadia and Vida (2011)	RET, BT	France/Slovenia	M	SML	Q(O)	283/224	27%/27%	EM	EV	GAC(ES, PR, MS, EG)	SEM
58	Sibanda et al. (2011)	-	Zimbabwe	M+S	SML	Q(M/E)	105	21.00%	EM/MM/MD	EV	-	DA
59	Sichtmann et al. (2011)	CT	Germany	M+S	SML	Q(O)	129	16.20%	TM	EV	EXPERF	PLS-PM

Papers using survey data												
	Authors	**Theory**	**Country**	**Industry Sector**	**Firm Size**	**Data Collection**	**Sample Size**	**Response Rate (%)**	**Respondents Position**	**Unit of Analysis**	**Export Performance**	**Analytical Method**
60	Sousa and Lengler (2011)	-	Brazil	M	SML(I)	Q(M)	201	20.10%	SM	F	ES, EI, MS, SAT, EXP	SEM, ML
61	Spyropoulou et al. (2011)	RBV	Greece	M	SMEs	Q(M)	311	74.22%	EM	EV	MS, ANC, ESG, PM, ROS	CFA, SEM
62	Stoian et al. (2011)	RBV	Spain	M(I)	SMEs	Q(E)	146	34.50%	DM	F	EI, ID, SAT	CFA, SEM
63	Beleska-Spasova et al. (2012)	RBV	UK	M+S	SML	Q(E)	356	23.70%	EM/ED/TM	EV	EXPERF	EFA, CFA, SEM
64	Chung (2012)	SNT	New Zealand	M(I)	SML(I)	Q(M)	100	26.00%	SML(I)	EV	SP	FA, HR
65	Chung et al. (2012)	CoT	Western Europe (Four countries)	M+S	SML	Q(M)	151	22%	EM, SM	F	ESG, MS	MANOVA
66	Combe et al. (2012)	ROT	Finland	M(I)	SML(I)	Q(M)	783	81.00%	EM	F	SAT (ES, MS)	CFA, SEM
67	Durmuşoğlu et al. (2012)	-	Turkey	M+S	SMEs	Q(M)	143	28.60%	EE	EV	GAC	CFA, MANOVA
68	Eibe Sørensen and Koed Madsen (2012)	RBV	Denmark	M	SMEs	Q(M)	249	31.48%	CEO	F	ExS	MR
69	Freixanet (2012)	-	Spain	M	SML(I)	Q(M)	272	22.48%	ED	F	ER, PL, GC, ID	Corr
70	Ganotakis and Love (2012)	HCT	UK	HT	SML	Q (M)	412	10.30%	En	F	PV	ProM, TRM
71	Hagen et al. (2012)	RBV	Italy	M	SMEs	Q(M)	148	17.41%	CEO/CAI	F	EI, EIG, SAT, MS, PP	CLA
72	Kaleka (2012)	RBV	UK	M	SMEs	Q(M)	268	30.28%	CAI	EV	MS, PR, NS	CFA, LR
73	Morgan et al. (2012)	DCT	UK	M	SML(I)	Q(M)	219	39.00%	EM	EV	MSG, ESG, ANC, PR, ROI, PM, GAC	CFA
74	Okpara (2012)	RBV	Nigeria	M	SMEs	Q	178	62.00%	CAI	F	EG, PR, OP	EFA, CFA, CLA
75	Robson et al. (2012)	HCT	Ghana	M+S	S	Q(FtF)	432	59.00%	O/DM	F	EI	HEMR
76	Souchon et al. (2012)	OLT	Philippines	M	SML(I)	Q(M)	354	28.00%	EM	F	EG	CFA, SEM

Papers using survey data												
	Authors	**Theory**	**Country**	**Industry Sector**	**Firm Size**	**Data Collection**	**Sample Size**	**Response Rate (%)**	**Respondents Position**	**Unit of Analysis**	**Export Performance**	**Analytical Method**
77	Sundqvist et al. (2012)	RBV	Finland	M(I)	SML(I)	Q(M)	783	81.00%	ED/EM/CEO/MD	F	SAT(PR), PR	CFA, SEM
78	Ahamed and Skallerud (2013)	RMT	Bangladesh	RMG	SML	Q(FtF)	180	36.00%	CAI	EV	EXPERF	PLS-PM
79	Bloemer et al. (2013)	RBV, RMT	Netherland	M(I)	S	Q(E)	134	3.50%	-	F	ES, PR, ESG, PRG	EFA, PLS-PM
80	Boso et al. (2013)	RBV, CoT, SNT	Ghana/Bosnia and Herzegovina	M	SMEs	Q(M)	164/117	49%/21%	CEO/MD/SD	F	PR, PRG, PM, ES	CFA, SEM
81	Brouthers et al. (2013)	IBV	China/Romania	M	SML(I)	Q + I(FtF)	72/34	35%/37%	CEO/EM	F	SAT (ES, GAC, OP)	HR
82	He and Wei (2013)	RBV, NT	China	M	SML(I)	Q(M)	230	30.00%	CEOs/MDs	F	PR, ESG, SAT, GAC	CFA, SEM, ML
83	He et al. (2013)	RBV, IBV	China	M	SML(I)	Q(M)	195	38.90%	CEO	F	OP, ESG, PR, GAC	LoR
84	Lengler et al. (2013b)	RBV	Brazil	M(I)	SML(I)	Q(M)	197	19.70%	SM	EV	ESG, PR	LR
85	Lengler et al. (2013a)	-	Brazil	M	SML(I)	Q(M)	197	19.70%	SM	EV	ESG, MS, PR, EXP, SAT	PLS-PM
86	Leonidou et al. (2013)	RBV, IV	Greece	M	SMEs	Q(M)	216	41.30%	CAI	F	PR, ES, EI, ROS, ROI, ROC	SEM
87	Lisboa et al. (2013)	RBV, OLT	Portugal	M	SML(I)	Q(O)	267	21.00%	CAI	F	PR, ROS, ROI, PM	SEM
88	Magnusson et al. (2013)	RBV	US	M(I)	SME(I)	Q(O)	91	29.00%	EM	EV	CoR, CSAT, PR, ESG, SS	PLS-PM
89	Sinkovics et al. (2013)	RBV, TCT	UK	M	SMEs	Q(M)	115	11.50%	MM/EM/SD	F	ESG, ES, PR, NP, OP	SEM
90	Theodosiou and Katsikea (2013)	RBV, IBV	UK	M	SMEs	Q(M)	160	19.80%	EM	EV	MSG, ESG, ROI, ROS, PM, GAC, TN, NP	SEM

Papers using survey data												
	Authors	**Theory**	**Country**	**Industry Sector**	**Firm Size**	**Data Collection**	**Sample Size**	**Response Rate (%)**	**Respondents Position**	**Unit of Analysis**	**Export Performance**	**Analytical Method**
91	Diamantopoulos et al. (2014)	-	Austria	M(I)	SML	Q(O)	173	89.18%	SE	F	CSAT, ES, PR, ESG, SP	PLS-PM
92	Freeman and Styles (2014)	RBV	Australia	M(I)	SMEs	Q(M)	150	14.00%	-	EV	SP, SAT	PLS-PM
93	Griffith and Dimitrova (2014)	RBV	US	M	SML(I)	Q(O)	151	23.36%	EM	F	SAT (RP)	SEM
94	Nakos et al. (2014)	-	US/UK	M+S	SMEs	Q(M)	162	27.00%	CEO/O/TM	EV	ESG, MS, ROI, PR, SAT	TRM
95	Navarro-García et al. (2014)	CoT	Spain	M	SML(I)	Q(E)	212	17.70%	EM	F	ESG, Epr, SAT	PLS-PM
96	Sousa and Novello (2014)	RBV, CoT	Italy	M	SMEs	Q(M)	154	18.20%	SM/EM	EV	SP, SAT	CFA, SEM
97	Sousa et al. (2014)	CoT	Portugal	M	SMEs	Q(M)	273	34.10%	O/CEOs/EM/GM	F	EI, ES, EXP, CoR	PLS-PM
98	Villar et al. (2014)	RBV, KBV	Spain/Italy	CT	SMEs	Q(M)	95/62	50%(a)	-	EV	EI	CFA, SEM
99	Yeoh (2014)	UET	Malaysia	HT	SMEs	I(FtF)	110	23.50%	CEO	F	EG, PRG, TSG, SAT(ID)	LR
100	Zeriti et al. (2014)	CT, FT	UK	M	SMEs	Q(M)	217	35.00%	EM/MM/QM	EV	PR, PM, GAC, ESG, MS, NS	LR, RA

Papers using secondary data												
	Authors	**Theory**	**Country**	**Industry Sector**	**Firm Size**	**Data Collection**	**Sample Size**	**Data Feature**	**Time (Interval)**	**Unit of Analysis**	**Export Performance**	**Analytical Method**
101	Beise-Zee and Rammer (2006)	HMT	Germany	M+S	S(I)	SD	3,272	Cross-s	1999	F	EI	LR
102	Fernández and Nieto (2006)	ET, RBV	Spain	M	SMEs	SD	10,579	Panel	1991-1999	F	EPr, EI	ProM, ToM
103	Styles et al. (2006)	EG, OLT	US	M	SML	SD	43,707	Cross-s	2002	F	EPr	LoR

Papers using secondary data												
	Authors	**Theory**	**Country**	**Industry Sector**	**Firm Size**	**Data Collection**	**Sample Size**	**Data Feature**	**Time (Interval)**	**Unit of Analysis**	**Export Performance**	**Analytical Method**
104	Ter Wengel and Rodriguez (2006)	-	Indonesia	M	SML	SD	18,132	Panel	1996, 2000	F	EI	LoR
105	Buck et al. (2007)	ET	China	M	L	SD	7,697	Panel	1998-2001	F	EPr, EI	ToM, ProM
106	Girma et al. (2009)	-	China	M	SML(I)	SD	142,909	Panel	1999–2005	F	ES	ToM
107	Lee et al. (2009)	RBV, IO	Korea	M	SML	SD	283	Panel	1994-2000	F	EI	GLSR
108	Lu et al. (2009)	IBV, PPP	China	M	SML	SD	562	Panel	2002-2005	F	EI, Epr	LoR
109	Singh (2009)	RBV	India	M	SML(I)	SD	3,542	Panel	1990-2005	F	ES	G2SLS
110	Bertrand (2011)	RBV, TCT	France	M	SML(I)	SD	2,000	Cross-s	1999	F	ES	LR
111	Gao et al. (2010)	ET	China	M	L	SD	7,697	Panel	2001-2005	F	EPr, EI, ROS	LoR, ToM
112	Anwar and Nguyen (2011)	ET	Vietnam	M	SML	SD	10,710	Cross-s	2000	F	EPr, EI	HEMR
113	Higón and Driffield (2011)	-	UK	M	SMEs	SD	3,731	Cross-s	2004	F	EPr	ProM
114	Lin et al. (2011)	BT	Taiwan	HT	SML(I)	SD	179	Panel	2000-2005	F	ROA	GLSR
115	Ricci and Trionfetti (2012)	NNT	32 countries	M	SML	SD	7862	Cross-s	2000,..,2005	F	EPr	LR, ProM
116	Yi et al. (2012)	RBV, IBV	China	M	SML(I)	SD	359,874	Panel	2005-2007	F	EI	HMR, GMM
117	Eberhard and Craig (2013)	NT, SNT	Australia	M	SMEs	SD	1304	Panel	1995-1998	F	EI	LR
118	Li et al. (2013)	IBV	China	M	L	SD	198,143	Cross-s	2005	F	ES	LR
119	LiPuma et al. (2013)	IBV	56 countries	M(I)	SML	SD	7,494	Cross-s	1999-2000	F	ES	HEMR
120	Raymond and St-Pierre (2013)	RBV, CoT	Canada, France	M	SMEs	SD	213/79	Cross-s	2006	F	EI, ID	CFA, CLA, MANOVA
121	Wang et al. (2013)	RBV, IBV	China	M	SML(I)	SD	141	Panel	2000-2006	F	EI,ESG,PR,MS	ToM

Papers using secondary data												
	Authors	**Theory**	**Country**	**Industry Sector**	**Firm Size**	**Data Collection**	**Sampl e Size**	**Data Feature**	**Time (Interval)**	**Unit of Analysis**	**Export Performance**	**Analytical Method**
122	Antonietti and Marzucchi (2014)	FHT	Italy	M	SMEs	SD	850	Panel	2001-2006	F	EPr,EI	SEM, ProM
123	Gashi et al. (2014)	NGT, OLT, TCT	Six countries	M(I)	SMEs	SD	17,962	Panel	2002; 2005; 2008/2009	F	EI	ToM
124	Agnihotri and Bhattacharya (2015)[2]	UET	India	M	SML(I)	SD	450	Panel	2002-2012	F	EI	ToM

- Codes for theory: AT = Agency theory; BT = Behavioural theory; CCT = Competence and capability theory; CT = Control theory; CoT= Contingency theory; DCP = Dynamic capabilities theory; EG = Economic geography; EMP = Export managerial psychology theory; ET = Eclectic theory; FHT = Firm heterogeneity theory; FT = Fit theory; HMT = Home-market theory; HCT = Human capital theory; IBV = Institutional-based view; IO = Industrial Organization-based theory; IT = Internationalization theory; ITT = International trade theory; IV = Industry-based theory; KBV = Knowledge-based view; LFT = Liberal feminist theory; NGT=New growth theory; NNT = New-new trade theory; NT = Network theory; OLT = Organizational learning theory; PPP = Principal-principal perspective; PT = Pricing theory; RAT = Reciprocal action theory; RBV = Resource-based view; RET = Rational exchange theory; RDT = Resource dependency theory; RMT = Relationship marketing theory; ROT = Real options theory; SET = Social exchange theory; SFT = Social feminist theory; SMT = Sales management theory; SNT = Social network theory; SOT = Stakeholder orientation theory; ST = Schwartz's theory; TCT = Transaction cost theory; TPB = Theory of Planned behaviour; TRT = Threat-rigidity theory; UET = Upper echelons theory.
- Codes for industrial sector: BT = Biotechnology; CT = Ceramic tile industry; ES = Engineering service; F = Food industry; HT = High technology industry; M = (Manufacturing) multi-industry; M(I) = Inferred multi-industry; RMG = Ready-made Garment industry; S = Service.
- Codes for firm size: S=Small size; M = Medium size; L = Large size; SMEs = Small and medium size; SME(I) = Inferred small, medium size; ML = Medium and large firms; SML = Small, medium and large size; and SML(I) = Inferred small, medium and large size because no information was provided.

[2] While the paper was published in 2015, it was available online in 2014 and therefore included in the review list.

- Codes for data collection: I(D) = In-depth interview; I(SQ) = Interview based on structured questionnaires; I(FtF) = Face-to-face interview; I(T) = Telephone interview; Q = questionnaire without indicating distribution approach; Q(E) = Questionnaire collected by Email; Q(F) = Questionnaire (Fax); Q(E/F) = Questionnaire (Email/fax); Q(M) = Questionnaire collected by mail; Q(M/E) = Questionnaire (Mail/Email); Q(O) = Questionnaire collected online; SD = Secondary data.
- Sample size is the number of firms in sample set.
- Codes for response rate: (a) approximate value, as the paper does not provide the accurate figures.
- Codes for key informant: '-' = No information about the key informant; '&' = Double informants; '/' = Or; CAI = Confirmed appropriate individual; CEO=Chief executive officers; CD = Company directors; DM = Decision maker of export operations; ED = Export directors; ExD = Executive directors; EE = Exporting executives; EM = Export managers; En = Entrepreneur; ESM = Export sales manager; ExM = Executive managers; GM = General managers; IMM = International marketing managers; MD = Marketing director; ME = Marketing executives; MiM = Middle manager; MM = Marketing manager; O = Owner; P = President; PM = Product manager; QD = Quality director; QM = Quality manager; RDM = R&D manager; SD = Sales director; SE = Senior executives; SM = Senior managers; TM= Top manager; VP = Vice president.
- Codes for unit of analysis: F = Firm; EV = Export venture; BU = Business unit.
- Codes for export performance measures: Composite scale: EXPERF = Generalized export performance scale (including profitability, export sales, export sales growth, global competitiveness improve, strengthen strategic position, market share growth, satisfaction, meeting export expectations, exporting successes);
  Individual scales: ANC = Acquiring new customers; CoR = Competitor rate export performance; CPe = Customer performance; CSAT = Customer satisfaction; CUG = capacity utilization growth; CuL = Customer loyalty; CuF = Customer referral; CuP = Customer reputation; CuT = Customer retention; EG = Export growth; EI = Export intensity; EIG = Export intensity growth; EPr = Export propensity; ER = Economic results; EXP = Meeting export expectations; ExS = Exporting successes; ES = Export sales; ESG = Export sales growth; FEP = Expected future export performance; FI = Image of firm in foreign markets; FPe = Financial performance; GAC = Overall export goal achievement; GC = Global competitiveness; ID = Internationalization degree; IE = International expansion; ME = Export market entry; MP = Market participation; MPe = Market performance; MS = Market share; MSG = Market share growth; NC = New customer; NP = New products; NS = New product sales; OP = Overall export performance; PEE = Perceived export experience; PL = Export planning; PM = Profit margins; PP = Product performance; PR = Profitability; PRG = Profitability growth; PV = Productivity; RC = Reduced cost; ROA = Return on assets; ROC = Return on capital; ROI = Return on investment; ROS = Return on sales; RP = Relationship performance; RQ = Relationship quality; RtP = Responding to competitors; SAT = Overall satisfaction with export performance; SNN = Successful new products' number; SP = Strategic performance; SS = Strengthen strategic position; TN = Time to market for new export venture products; TSG = Total sales growth.
- Codes for data feature: panel = panel data; cross-s = cross sectional data.

- Codes for analytical method: ANN = Artificial neural network; CA = Correlation analysis; CCA = Canonical correlation analysis; CFA = Confirmatory factor analysis; CLA = Cluster analysis; CPA = Comparative analysis; Corr = Correlation matrix; DA= Discriminant analysis; EFA = Exploratory factor analysis; FA = Factor analysis; G2SLS = Generalized two-stage least square; GLSR = Generalized least square regression; GMM = Generalized method of moments; HEMR = Heckman effects model regression; HLoR = Hierarchical logistic regression; HMR = Hierarchical moderated regression; HMM = Hierarchical multi-nominal model; HR = Hierarchical regression; LR = OLS regression; LoR = Logistic regression; MANOVA = Multivariate analysis of variance; ML = Maximum likelihood; MLR = Multiple linear regression; MR = Multivariate regression; MSP = Median-split regression; NBR = Negative binominal regression; SEM = Structural equation modelling; PCA = Principal components analysis; PLS-PM = Partial least squares path model; PR = Polynomial regression; ProM = Probit model; RA= Residual analysis; SA = Subgroup analysis; ToM = Tobit model; TRM = Truncated regression model.

Appendix-3 Classification of Antecedents of Export Performance

Firm level															
Export marketing strategy															
Price adaptation	AI	9	Using consultancy program	A	3	Business strategy	A	1	Green tangible investment strategy	A	1	Outsourcing strategy	A	1
Promotion adaptation	AI	9	Distribution support	I	2	Competitive positioning	A	1	Hybrid strategy	A	1	Relationship marketing activities	I	1
Product adaptation	AI	8	Eco-friendly marketing strategy	AI	2	Customer integration	M	1	Implementation effectiveness	I	1	Segments strategy	I	1
Distribution strategy adaptation	AI	7	Market tactics adaptation	A	2	Degree of born-globalness	I	1	Influence strategy	I	1	Service adaptation	A	1
Cost leadership strategy	AM	3	Strategic fit	AI	2	Differentiation focus strategy	A	1	International Internet marketing strategies	I	1	Strategy development modes	A	1
Differentiation strategy	A	3	Adaptation to customers	I	1	Distribution strategy	A	1	Long-term contract strategy	M	1	Sustainable export marketing strategy adaptation	I	1
Promotion strategy	A	3	Branding strategy	A	1	Export strategy	I	1	Market entry mode	M	1	Work process standardization	I	1
Firm characteristics															
Firm size	AIM	22	Competitive advantages	AI	4	Sales volume	A	2	Export activity stage	A	1	Organizational slack	M	1
Firm export experience	AIM	18	Knowledge-based resources	AI	4	Tangible assets	A	2	Export divisions	A	1	Outside director ratio	A	1
Export commitment	AI	17	Relationship performance	AI	4	Targeting performance	AI	2	Export personnel	A	1	Production subsidies	A	1
Financial resources	A	10	Export dependence	AI	3	Technological resources	A	2	Export policies	A	1	Productivity-enhance spillovers	A	1

Internationalization degree	AIM	10	Export intensity	AIM	3	Training	AI	2	Export regularity	A	1	Reception of unsolicited orders	A	1
Cost leadership	AI	9	Product/Service quality	AI	3	Attainment discrepancy	M	1	Export segmentation	I	1	Region oriented	A	1
Ownership	AM	9	Productivity	A	3	Brand advantage	I	1	Firm location	A	1	Representative autonomy	A	1
Human capital resources	AI	8	Scale resources	A	3	Business partnerships	A	1	Firm relational resources	A	1	Representatives' support	A	1
Firm age	AIM	6	Trust	AI	3	Centralization	A	1	Foreign direct investment	A	1	Service advantage	I	1
product life cycle stage	A	6	Cultural resources	A	2	Channel characteristics	A	1	Formalization	A	1	Skill level of employees	A	1
Affiliation	AM	5	FDI spillover	A	2	Communication quality	A	1	Green export-related resources	A	1	Strategic focus	M	1
Innovation product	AI	5	Past performance	AM	2	Coproduction instructions	I	1	Importer role performance	I	1	Structural organicity	M	1
Positional performance	AI	5	Product characteristics	AM	2	Cultural sensitivity	I	1	Investment support	A	1	Value of imported inputs	A	1
Firm capabilities														
Market orientation	AIM	13	Relationship capability	AI	5	Market research capability	A	2	Finance exporting capability	A	1	Manufacturing flexibility	I	1
Network capability	AIM	9	Marketing capability	AI	4	Quality capability	A	2	Human resource development capability	A	1	Market responsiveness	A	1
Innovative capability	AI	8	Planning capability	AI	4	Technology orientation	A	2	Image enhancement	A	1	Physical presence	I	1
R&D expenditure	A	7	Technological capability	A	4	Adaptability to changes	A	1	Information and communication technology	A	1	Power	I	1
Information capability	AI	6	Advertising expenditure	AI	3	Complementary capability	A	1	International orientation	M	1	Pricing capability	I	1

Communication capability	AI	5	Control	A	3	Customer acquisition	A	1	IT proficiency	A	1	Resources inimitability	A	1
Coordination	AIM	5	Customer orientation	A	3	Differentiation competencies	A	1	Knowledge acquisition	I	1	Response to export information	I	1
Entrepreneurial orientation	AM	5	R&D intensity	A M	3	Differentiation competencies	A	1	Learning capabilities	A	1	Strategic orientation	A	1
Product development capability	AI	5	Knowledge management	AI	2	Export memory	M	1						
Management characteristics														
International experience	AM	8	Cross-cultural skills	IM	2	Frequency of visiting foreign market	A	1	Management team heterogeneous	A	1	Rewards	A	1
Propensity	AI	6	Foreign language skills	A	2	Global mind set	I	1	Managerial orientation	A	1	Sales manager performance	I	1
Education	A	4	Gender	A M	2	Immigrant	A	1	Manager's performance	I	1	Self-enhancement	A	1
Managerial commitment	A	4	Managerial cooperation	AI	2	International knowledge	A	1	Morale level	A	1	Shareholding	A	1
Age	A	3	Managerial ties	M	2	Job satisfaction	A	1	Relatives	A	1	Strategic thinking	A	1
Time spent abroad	A	3	Risk-taking	A	2	Knowledge transfer	A	1	Returnee	A	1	Tenure	A	1
Conservation value	A	2	Cultural intelligence	M	1	Management control	A	1						
Industry-level characteristics														
Technological turbulence	AM	4	High-tech industry	A	1	Industry adaptation	A	1	Industry technological intensity	M	1	Technology assistance	A	1
Industry concentration	AI	3	Industrial export orientation	M	1	Industry export orientation	A	1	Sector (good/service)	A	1	Technology gap	A	1
Technological environment	A	3												
Country-level characteristics														

Domestic market														
Domestic demand	AM	2	Local market characteristics	IM	2	Infrastructure quality	I	1	Institutional environment	A	1	Legal quality	A	1
Export assistance	A	2												
Foreign market														
Foreign market														
Competitive intensity	AM	18	Geographical distance	AM	3	Market development	A	2	Customs and traditions	A	1	Location level factors	I	1
Psychic distance	AM	10	Information availability	A	3	Regulative distance	AM	2	Economic environment	A	1	Market foreignness	A	1
Market dynamism	AM	9	Infrastructure	A	3	Sociocultural environment	A	2	Financial crisis	M	1	Market industrialized level	A	1
Regulatory environment	AM	6	Cultural environment	AM	2	Bilateral trade	M	1	Government intervention	A	1	Market munificence	A	1
Cultural distance	AM	4	Environmental conditions	AM	2	Business distance	A	1	Government relationship	M	1	Normative distance	M	1
Customer characteristics	AIM	4	Environmental volatility	AI	2	Business environment	A	1	Infrastructure distance	A	1	Potential demand	A	1
Environmental difference	A	4	Export barriers	AI	2	Customer familiarity	A	1	Language distance	A	1	Public environmental concern	M	1
Economic environment	A	3	Institutional environment	AM	2									

- The number after each construct indicates the frequency.
- A - Antecedents; I - Intervening variable; M - Moderator.

Appendix 4: Suggestions for Future Studies

		Directions for future studies
Theoretical issues		• Theories from other disciplines (e.g., Economics) could provide a guidance to advance the theoretical development, but researchers need to be particular vigilant about the compatibility of such theories. • Integrating two or three current international business theories could be a direction for future studies, e.g., combing RBV and IBV, combing RBV and contingency theory, but researchers need to be aware of the potential conflicts between theories
Methodological issues	Field work	• Developing country need to receive more attention (e.g., African countries). • Multi-country study are encouraged.
	Industry type	• Non-manufacturing industries needs to receive more research attention in future studies (e.g., service sector).
	Data sources	• Study with survey data: researchers need to address validity and reliability issues when using primary data (e.g., common method bias). In addition, the primary data is normally characterized by small sample size, which limits the research generalizability. • Study with secondary data: the secondary dataset tend to have bigger sample size, and is characterized by greater objectivity. However, the concerns of using secondary data are about the unit of analysis and adaptability.
	Statistical methods	• Future studies are encouraged to explore higher-order nested and interaction relationships among antecedents and the effect on export performance (e.g., three-way interaction). • Longitudinal studied are called for in future research, with relevant advanced statistical methods (e.g., dynamic panel model with generalized moment of method). • Statistical remedies in response to the endogeneity and self-selection problems should be addressed in future studies.